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A PRACTICAL
DISSERTATION
ON
BATH-WATERS.

BATH-WATERS.

D I S T R I C T



THE
LONDON
EDITION
OF
THE
HISTORY
OF
THE
CITY
OF
LONDON
BY
JOHN
STOW
1618

A PRACTICAL
DISSERTATION
ON
BATH-WATERS.

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| <p>I. Of the Antiquity of Bath, and its Waters.</p> <p>II. The Origin of Springs.</p> <p>III. Of the Ingredients in the Waters.</p> <p>IV. The Cause of their Heat.</p> <p>V. Of Drinking the Waters, and Bathing, and Directions in Both.</p> | <p>VI. Of the Virtues of Bath-Waters in particular.</p> <p>VII. That they are of great Use in the Gout.</p> <p>VIII. That they are extraordinary good in Womens and Childrens Cases.</p> <p>IX. That the City of Bath is very healthy.</p> <p>X. Of Cold Bathing.</p> |
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To which is added,

A RELATION of a very extraordinary
SLEEPER near BATH.

By WILLIAM OLIVER, M. D.
Fellow of the Royal Society, of the College of
Physicians, London; and Physician to the Royal
Hospital at Greenwich.

*Sed ille,
Si foret hoc nostrum fato delatus in ævum,
Detereret sibi multa.* Hor. Lib. I. Sat. x.

The FIFTH EDITION.

L O N D O N:

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THE
 NATIONAL ANTHROPOLOGICAL MUSEUM
 OF THE UNITED STATES OF AMERICA
 WASHINGTON, D. C.

TO THE
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 OF THE UNITED STATES OF AMERICA
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[v]
TO THE

K I N G.

S I R,

IT was a Custom with the
Romans, when they were
Masters of *Great Britain*, to
dedicate our *Bath-Waters* to
Minerva, the Goddess of *Wis-*
dom and of *War*, who had her
Temples and Altars erected

near them: And if the Christian Religion allow'd such Consecrations, Your Majesty might justly expect the same Reverence would be paid to Your Great Name; such an unbounded Veneration have all Good Men for Your Majesty's Fortitude and Wisdom, and those eminent Virtues by which Your Character is so illustriously distinguish'd. But there seems to be a particular Reason, why these Fountains should have been Sacred to your Majesty; since as Almighty God was pleas'd to open them in our Land, for a common Remedy against bodily Infirmities and Diseases, so

His

His Providence has miraculously brought Your Majesty among us, to heal us in a far nobler Sense, and cure the distemper'd Minds of an exasperated and divided People, and recover them to their right Understanding.

Your Majesty, like a real Champion of your Country, has already in a great measure trampled under Your Feet that old Dragon and Hydra of Faction, Rebellion, and Popery, which ever since the Reformation have been always endeavouring our Destruction. It was Your Majesty's peaceable and happy Accession to the Throne, by the undoubted and divine

Right of the Constitution, that under God hath fav'd us, in such a Juncture of Time, when the Priests of *Baal*, and the Sons of *Belial*, laid their Heads and Hearts together, and took Counsel how to destroy our Religion and Laws, in order to subvert the best establish'd Government in the whole World. Your Majesty is that *Ordinance of Man*, which St. *Paul* and St. *Peter* both command us to submit to, *for the Lord's sake*, and that on *pain of Damnation*. Let the Unthinking among us, who delight in Tumults and Rebellions, as Enemies to Peace, please themselves with those phan-

phantaſtick Notions they have ſet up, contrary to the poſitive Laws of God and Man, to the Ruin of themſelves and Families. Let them ſtill look on *France* and *Rome* as Guarantees of the Independent High Church they affect, that they may erect an Inquiſition among us, as there is in thoſe Countries where Jeſuitiſm and Superſtition prevail.

But let all honeſt Men heartily love and honour Your Ma-
jeſty, and Your Family, and continue firm and ſincere Friends to the Conſtitution; and may Your Majeſty's Endeavours for the Publick Welfare be ſucceſ-
ful,

x DEDICATION.

ful, and Your Reign over us
long and happy. I am

YOUR MAJESTY'S

Most Dutiful, and

Most Devoted Subject

and Servant,

WILLIAM OLIVER.

THE

THE CONTENTS.

CHAP. I.

OF the Antiquity of Bathing. Mens Curiosity and Reason put them first upon the Experiment. Bathing very ancient, from Homer, and the old Historians and Physicians. Very much improv'd by the Romans, whose Baths were both sumptuous and numerous, as they are now in the Eastern Countries. Page 5

CHAP. II.

Of the Origin of Springs. Springs are temporary, or perennial. The several Causes of Springs assigned by Authors, are all secondary. The primary Cause the Sea. 9

CHAP.

xii The CONTENTS.

CHAP. III.

Of the Ingredients in the Bath-Waters: That they have their Virtue from some Metal, and Salts of divers Kinds; the Quantities of each never to be known. Of its native Spirit, which is lost, when cold. That this Spirit is an Acid. Practical Experiments on Diseases the best way to find out the Virtues of Bath-Waters.

Page 16

CHAP. IV.

Of the Cause of their Heat. Several Causes assign'd by Authors. Whether subterranean Fires are the Cause of the Heat of Waters, examin'd; and prov'd insufficient. More probable from Fermentation from a Mixture of Salts. The Story of the ingenious Savoyard proves it. Its Composition divine.

23

CHAP. V.

Of drinking Hot Waters. Very antient, from the oldest Physicians and Historians. These Waters little used internally, till of late. The Time when to be taken. Whether they may be drank in Winter. The

Quan-

THE CONTENTS. xiii

Quantity. The Manner of their Operation. The Accidents that happen in their Use; as Purging too much, Vomiting, Sleepiness, and their Cure. 38

CHAP. VI.

Of Batbing. 1. The Time when to bathe. 2. The Manner of its Operation. 3. The common Accidents that happen to Bathers; (1) By causing a better Digestion. (2) By softening all Parts hardened, and contracting such as are relaxed. Pumping, and its Uses. 71

CHAP. VII.

Of Diet: The more simple, the better with Water-drinkers. Of Malt-Drinks, and Wines. Fresh Meats and easy of Digestion, and not of too much Nourishment, best. 81

CHAP. VIII.

Of the Virtues of Bath-Waters in particular. 1. In Scorbutick Rheumatisms. 2. In Palsies. 3. Colick. 4. Consumptions. 5. Asthma, or Shortness of Breath. 6. In Dropsies. 7. In the Jaundice. 8. In the Scurvy. 9. Loss of Appetite. 10. All

All sorts of cutaneous Diseases. 11. *Gravel and Stone in the Kidneys.* 12. *In the Vapours.* 86

C H A P. IX.

Of the Diseases of Women. 1. *Green Sickness.* 2. *Uterine Humours, White, and Red.* 3. *Barrenness. Diseases in Children, as Rickets, Weaknesses in the Limbs, Big-bellies, Contractions.* 106

C H A P. X.

Some Questions stated and answered. 1. *Whether these Waters are good in the Pox?* 2. *Whether they are good in the Gout?* 3. *Whether we sweat in the Bath under Water?* 114

C H A P. XI.

Of the Antiquity of Bath. That the Springs were probably not secured before the Time of the Romans. The Story of Bladud is mere Fable. The Britains lived wild in the Woods before Cæsar's Time. The Town stands on a Bog. Many Roman Antiquities on the Walls of Bath. The several Names of Bath. 136

C H A P.

THE CONTENTS. xv

CHAP. XII.

Of the City of Bath, and its Situation. That Air is a very great Ingredient of Life. The Air most free and open not always the best. Air the Cause of Plagues, from the Effluvia out of the Earth. That there may be benign Effluvia too. Effluvia from the Earth the Cause also of endemial Distempers, as Small-Pox and Fever, &c. More healthy old Persons in and near Bath than any-where else. The Situation of Bath very healthy. The best Cure for chronick Diseases. 143

CHAP. XIII.

Of the Baths in Bath. 1. King's-Bath the hottest, described. The Queen's-Bath but an Appendix of this. The Hot-Bath, the next hot. The Lepers Bath, Part of this separated by a Wall. The Cross-Bath, most temperate, particularly good in Contractions of the Tendons. The Heat of the Baths to be adjusted to the Constitution. That all these Baths proceed from one Spring. Are the same in Quantity and Heat in all Seasons of the Year. 149

C H A P. XIV.

Of Cold Baths: That they would not prejudice, but promote the Use of the warm Baths. What Life is. That in cold Countries Peoples Flesh is harder, and they less subject to catch Cold: That they are not so liable to Diseases as in warmer Climates. Mortifications prevented by cold Snow externally applied.

159

A RELATION of an extraordinary Sleeper near Bath: That the Matter of Fact is true. We know not what the Soul is, and therefore ought not to determine any thing as impossible about it. That cold Creatures may live long without Food. That Air may nourish, in some Proportion to the Expence. Several Histories of this kind from the Learned. Some Creatures sleep half their Time without Food. Animal and sensitive Life the same in Men as in Brutes. A Magnetism in Liquids.

169

T H E

INTRODUCTION.

WHAT the antient *Poets* feign-
ed of their *Nectar*, or Drink
of their *Gods*, may be truly said of our
Bath-Waters; That they are not
only of a delicious *Taste*, but also of
admirable Use for the Preservation of
Health: Like the *Water of Life*
in the *Revelation*, clear as *Crystal*,
designed by *Heaven* for the *Heal-*
ing of Nations. It has always been
B rickon'd

reckon'd as a *Blessing* to any People, that their Country abounded with Fountains, Springs, and Rivers. These were had in great Respect among the antient *Egyptians*; and a *Pitcher* fill'd with Water, and cover'd over, was their *Hieroglyphick* for Health and long *Life*. The learned *Pagans*, as well *Greeks* as *Romans*, invoked their Fountains and Rivers as their *Gods*, or at least as the Habitations of Divinities.

——*Nunc ad aquæ lene caput sacræ.*

HOR.

And we are told in history, that the Fathers of the old *British* Church, the *Druids*, instituted a Worship something like this, here in our own Country; presuming, as I suppose, that Springs and Fountains, Rills and Rivulets, were the true *Naiades* or Nymphs, the legitimate Daughters of their great *God*, the *Ocean*:

The Introduction.

~~—~~ *Ille precatur*
Oceanumque Patrem Rerum, Nym-
phasque Sorores. VIRGIL.

Now that which gave Occasion for the establishing this Deity, was a very antient Opinion among Philosophers, that Water was the *Panspermia*, or Parent of all Things; the *Materia Prima*, that had no Form of its own, but was susceptible of all *Forms*, from the Aptitude of its Parts to insinuate themselves, and be assimilated into any Body whatsoever. But medicinal warm Waters were more profoundly reverenc'd, as the peculiar and special Care of Providence, the Cherishers of *Health*, and the Support of long *Life*; being designed, by their Humidity and Warmth, to restore our *Radical Moisture*, when spent; and recruit our *Native Heat*, when languishing, or decaying, through Infirmities or Age.

The Introduction.

4
Of this kind are the *Waters* I am now about to treat of; the proper Practical Use of which, and the Way of their Operation, shall be my chief Care, troubling my Reader as little as possible with Speculations or Disputes, because I am of Opinion, they signify little to the World, whether they are true or no.

A

Practical Dissertation

ON

BATH-WATERS.

CHAP. I.

Of the Antiquity of BATHING.

WHEN Bathing began to be of Use, or who first recommended it to Mankind, no Records, that I know, mention, or afford us any Light to discover. Probable it is, Mens Curiosity and Reason put them

first upon making the Experiment. It is very natural for us to believe, Rational Creatures, when they found their *Blood* heated by the scorching Sun-Beams, should soon imagine, that *Bathing* in cold Water must clean, cool, and refresh them; as also by a Parity of Reason, that warm *Baths*, in weak and cold Constitutions, must strengthen, comfort, and relieve them. Thus by Use and Observations from repeated Experiments of this kind, Men became by little and little better acquainted with the Virtues and Advantages of both Hot and Cold Baths. We find frequent Mention of Bathing in *Holy Writ*. And *Homer* *, one of the oldest Profane Authors we have, tells us, That *Ulysses* and his Comrades bathed first in the Sea, and next in warm Water, to refresh themselves after a Fatigue, before they dined. That Baths have been of very antient Use in

* *Iliad*. 10.

the *Eastern* Countries, is attested by *Plutarch*, *Strabo*, — *Diodorus Siculus*, *Pausanias*, and most of our antient Historians and Poets, who make frequent mention of them in their Works. The modern Authors also of Note in Physick, *Andr. Baccius de Thermis, Mercurialis* in his *Gymnasticks*, and the old Authors *de Balneis*, are full of Instances of the Uses the Antients made of their Cold, Temperate, and Hot Baths.

The *Romans*, in a more especial manner, greatly improved this Part of *Physick*; very noble and magnificent Publick Baths were erected at the Charge of their Emperors, who frequently bathed in Publick, to ingratiate themselves with the People. Some of these Baths are said to be so large, that they resembled great Cities*; and if we can believe *Ammianus Marcelli-*

* Vid. Pancirol. de rébus deperd. & invent. p. 93.

nus, they were of that Extent, as to deserve the Name of Provinces. It was upon this Account *Agrippa* built 170 Publick Baths in *Rome*, at his own Charge, for common Use. And *Pancirollus* tells us, there were 856 Baths at *Rome*, at one time. * *Prosper Alpinus*, who lived at *Grand Cairo* some Years, acquaints us, that the Inhabitants of that City had a great many very magnificent Structures for Bathing, which were much frequented by the *Egyptians*, when he was there. We are also very well assured from Travelers, that all over *Turky* Baths are of great Use among the *Mahometans* to this Day: Nor are our antient Physicians silent in this Point; as we may be satisfied at large, by the Writings of *Hippocrates*, *Galen*, *Ætius*, *Trallianus*, &c. where the manner of Bathing in all their different Baths is very amply described.

* De Medicina Ægyptiorum, lib. 3. cap. 16

C H A P. II.

Of the Original of SPRINGS.

I Shall not in this Place consider Water as one of the Elements; there being but one universal Matter infinitely divisible, the only Element in Nature, out of which all Things are composed, according to the specifick and determined Laws impressed on it by the first Mover of all Things. This Matter becomes Water, Earth, Stone, Tree, or Animal, according to its various Combinations, under their invariable Laws; and into this universal Matter all Things are reduced, when they have quite lost their Specifick Forms, which gave them their first Denomination; of which we have a large Philosophi-

cal Account in Ovid; the four Elements being supposed by the Antients to be the first Principles out of which all Things were made, and into which all will at last be resolved.

*Nec Species sua cuique manet. Re-
rumque Novatrix
Ex aliis alias reparat Natura Figu-
ras.*

*Nec perit in tanto quicquam, mibi
credite, Mundo;
Sed variat, Faciemque novat; na-
scique vocatur,
Incipere esse aliud quam quod fuit
ante; morique,
Desinere illud idem.—*

OVID Metam. lib. xv.

I shall then here consider Water only as an Heterogeneous Body, such as we find it in Springs and Fountains; of which Authors who treat of it, observe two Sorts.

First,

First, Such as are Temporary, often dry in Summer, because they lie near the Surface of the Earth.

Secondly, Perennial, such as in Winter and Summer, wet or dry Seasons, are always the same, not at all altered as to Quantity or Quality, because they lie very deep in the Bowels of the Earth, and cannot at all be affected by the scorching Sun-Beams, they being out of their Reach. Of this last sort our Bath-Waters, my present Subject, must be reckon'd; for in the driest Summer, or in the most dropping Winter in the Memory of Man, they have always remained the same.

There are various Causes of Springs assigned by Authors.

1st, They are said to proceed from Caverns and Lakes under Ground, which by subterraneous Fires may ascend in Steams or Vapours, and by the cold Rocks near the Surface be condensed into Water, and form themselves into Springs and Rivers.

2dly, From Rains and Snows melting from the Tops of Mountains, and falling down through the Clefts of Rocks.

3dly, From Vapours condensed by the Sides of high Mountains, as Dr. *Halley* thinks, from some Observations he made at *St. Helena*.

4thly, From some hidden Passes in the Earth, through which the Sea soaks into its Pores, as Water through a Sponge or dry Cloth, leaving its Salt behind it: So being, as it were, one *Continuum*, Water still pushing on Water, by its own Weight, and Impulsion of the circumambient Air, as through a Siphon, it being once in Motion, may be convey'd to the Tops of the highest Mountains. And thus, by Filtration only, the Nourishment, Vegetation, and Augmentation of Gems, Stones, Minerals, and all subterraneous Bodies, as well in the Bowels of the Earth, as on its Superficies, are by Nature constantly and steddily carried

carried on ; the Salt in the Water, left behind, supplying what the watry Vehicle washes off in its Passage ; Salt being the Medium between Earth and Water. And this will seem the more probable, if it be true, that the Sea near the Equinoctial is much higher than at the Poles ; and that its Superficies is higher there, than any Mountain in the World. Besides, many are of Opinion, that the Centre of the Earth's Gravity, and that of its Magnitude, are not the same, but at some Distance one from the other. And if so, it will not be very difficult to account, how Water may rise to the Tops of the highest Mountains, only by its own Weight or Gravitation.

5thly and lastly, 'Tis plain the Earth, as all other solid Bodies, has its Perspiration or Atmosphere from its whole Superficies, whose Vapour or Moisture, being check'd near its Surface by Cold, may be condensed, so as to cause Springs.

This,

This, perhaps, may serve to solve a very odd *Phænomenon* in nature, that happen'd in the Year 1683, during the hard Frost here in *England*; For Mr. *Ray**, that curious Inquirer into Nature, tells us, that he had observed at that time, all the Springs about him in the Country broke out, and ran more plentifully than they used to do in any other, tho' very wet Seasons.

Now these are the Speculations and Notions of Philosophers upon this Subject, some contesting for one, and some for the other, as the original Cause of Springs. For my part, designing chiefly what is practical, and to accommodate these Waters to the common Exigencies and Infirmities of Mankind; I shall not enter the List, by way of Dispute with any body; contenting myself only with giving you my Opinion upon the Whole, That the primary and original Cause of all Springs is the

* *Miscellaneous Discourses*, p. 91.

Sea, into which all the Rivers run, as into the Place from whence they came (*per modum Circulationis*), as the *Preacher* tells us. And thus all the other Causes mention'd may be allow'd to be secondary, and subordinate, or rather the several ways Nature takes to make out of salt Water sweet Springs.

C H A P.

C H A P. III.

Of the Ingredients in the BATH-WATERS.

Medicated Waters; such as we are about to treat of, owe their Virtues to some Mineral Salts, or imperfect metalline Substances, they meet with in their Way; with which they are impregnated, probably not far from the Place where they break out. Thus medicated Waters are formed, according to *Aristotle* *, *Tales sunt Aquæ, qualis est Natura eorum per quæ transeunt*; that Waters partake of the Nature of the Places through which they pass.

* Lib. de Sensil. Insensil.

And

And Galen tells us *, *Quæ exactè & sincerè Aqua est, si per bituminosa, sulphureosa, &c. Loca decurrit, Substantiæ aliquid absterferit, secumque traxerit, &c.* that is, the most simple elementary Waters, if they happen to pass through bituminous or sulphurous Places, are impregnated with and carry off some of their Particles with them. I do not design in this place, to give you an exact Analysis of these Waters; their component Particles are so intimately and perfectly united and blended together by Nature, that no Art will ever be able, I am of Opinion, to make any accurate Separation of their Ingredients, or to imitate them. The Virtues of these Waters are not owing to any one, but to all the Materials together in an unimitable Composition. They contain a neutral Salt; or, as *Blundell* calls it, in his Treatise of the Baths at *Aken* in *Germany*, a Chaos.

* Lib. de Simpl. Med.

of Salts ; that is, several sorts of Salts mix'd together, as perhaps Sal Gem-Nitre, common Salt, and Vitriol, besides Sulphur, Bitumen, Steel, Earth, Ocre, and Freestone.

But what Quantity of these Ingredients are employ'd in this grand Composition, is, and I believe ever will be, an insuperable Difficulty to find out. All the Substances, both Metalline and Mineral, procured by several Experiments of Distillation and Evaporation, make not above the three hundredth Part of the whole Quantity ; and but a third Part of all these Ingredients are Saline, as Dr. *Guidott* has observed, Page 46. That there is a Gas in them, or an exalted Vitriolick Steel, may easily be prov'd by our Senses ; because, while warm, we can taste and smell it : as also from the Iron Works round about the *Bath*, which are very visibly corroded and consumed by it ; several Instances of which any one may see on the

the Place, that has a mind to satisfy his Curiosity. But this is of so fine and subtile Parts, that 'tis quite lost when cold, tho' never so well stopp'd or Hermetically seal'd up in Glass, which, like the *Effluvia* of the *Magnet*, pass and repass every-where, being of too volatile a Nature to be confin'd; *Tanquam Gas sulphureum Vini in nullum Corpus reducibile*, as *Becker* has it *. And I am apt to believe, whoever shall at any time endeavour to collect it, will perhaps succeed little better than *Cornelius Drebbel* did, who endeavour'd to distil out of several Bodies, and bottle up, the *Anima Mundi*, or Soul of the World. This is that Acid that gives the Purple Tincture, when mixed with Galls warm from the Pump; which it will not do, when cold, or taken out of the Baths; because having been ex-

* *Physic. Subterranean.* p. 9.

pos'd there to the open Air, it has lost the Acid Spirit that was in it.

And I am very much mistaken too; if it be not a very hard Task to prove, that the Quantities of Salts, Sulphur, Earth, Water, &c. which Chymists find in them after Distillation, are the very same which Nature employ'd in their first Mixture or Composition. Every body knows, that the Operation of Fire upon Bodies makes great Changes in their Textures; insomuch that sometimes they alter their very Hypostatical Principles (as the Chymists are pleas'd to call them), and produce somewhat new, and of a different Nature and Texture from what they were before. Thus Stones and Minerals alter their Nature quite, when by a strong Fire they run into Glass. What Alkaline Salts are in our Waters, I know not; but that the Sand in them is of an Alkaline Nature, may

may be evident from its Fermentation with the Juice of Lemons. Neither do I think this Sand becomes Vitriolate, as Dr. *Guidott* affirms it will be in time, having had mine by me above six Years unaltered; it seems rather to be only the Powder of Freestone in them, according to the learned Dr. *Jorden*, who thinks these Waters owe their Heat to this Powder, which he supposes is the Mother of the Fermentation, as the Acid is the Father. And the ingenious Dr. *Lifter* * is of Opinion, that our Bath-Waters have their Heat, à *Pyrite & Lapide Calcario vegetantibus*. These Considerations discourage me from being too nice in my Inquiries, what the Ingredients of these Waters are, and the Experiments already made by others shall satisfy me. I wave all doubtful Speculations, as of little Use in Physick; all the Curiosity I have, or pretend to, being only to know prac-

* Cap. 9. de Font. Med. Ang.

tically,

tically, what Effects they have on the Constitutions of Mankind: And I am persuaded the only true way to recommend them to the World, is by practical Experiments, and judicious Observations made upon their Use,

C H A P.

C H A P. IV.

*Of the Cause of the Heat of BATH-
WATERS.*

THE Causes of Things lie very deep in *Democritus's* Well; and, as the Poet says, he must be allowed to be a very happy Man, that knows how to find them out:

*Felix qui potuit Rerum dignoscere
Causas.*

The gravest Authors who have taken pains to find out the true Cause of the Heat of Hot Springs, have been puzzled at the Strangeness of so stupendous a *Phænomenon*. 'Tis very hard for the most profound *Mystæ* in the Works of Nature,

Nature, to conceive how an actual Heat, constantly the same in all Seasons of the Year, should be so steddily perpetuated and preserved through so many Ages, as I think is plain from History and Traditions, that the Heat of their Waters has been; the nicest Inquirers into natural Phænomena are not yet agreed among themselves about it. I shall not therefore be very positive in my Assertions upon this Head, where the Subject is so abstruse and disputable. Some derive their Heat from the Sun and Stars: Others think it is produced by some particular Putrefaction in the Bowels of the Earth: Others attribute it to Lightning, subterraneous Fires from the Centre of the Earth, where there is, they say, a constant Fire, which is conveyed by some open Passages to the large Vessels that contain them, as they suppose. And this is prettily express'd by *Neccham*, an *English* Poet, four hundred Years ago, in a Copy of *Latin* Verses on our Baths:

Ignē

*Ignē suo succensa quibus data Balnea
fervent,*

*Ænea subter aquas Vasa latere pu-
tant;*

*Errorem Figmenta solent inducere pas-
sim:*

*Sed quid? Sulphureum novimus esse
Locum.*

Or lastly, others ascribe the Cause of the Heat to Fermentation, from the intestine Motion of its Heterogeneous Particles; such as we see when Acids and Alkalies are mixt together.

I shall not entertain my Reader with the Detail of all these Suppositions; contenting myself only with the two last, which I think chiefly deserve to be consider'd in this Place.

That subterraneous Fires are the Cause of the Heat we find in our Mineral Waters, is maintain'd by grave Authors. We all know there are such subterranean Fires at *Hecla*, *Vesuvius*,
C Mount

Mount *Ætna*, &c. but that this is not our Case at *Bath*, I humbly conceive for these Reasons following :

1. It is hard to imagine a Fire should burn here so long under-ground, and never break out any-where, as the burning Mountains do. Fire cannot subsist without having *Spiracula* or Vents through which it may discharge its Flame and Smoke; and others through which the Air may be admitted to afford it fresh Pabulum, or to fan and agitate it. When these *Spiracula* are by any means obstructed, great Noises are heard in the Bowels of the Earth, and Earthquakes are soon observed to follow. Such *Spiracula* are very obvious near the burning Mountains above-mentioned, the Ground for a good Space round them being parched, cleft, and opening into large Caverns, which have plainly a Communication with the internal Fire. But I never heard of any Appearances of this kind near the *Bath*; no subterraneous
Noises

Noises were ever heard; neither is the adjacent Country more subject to Earth-quakes than any other Part of our Island. But perhaps for want of a free Communication of Air, our Sulphurous, Bituminous, and Vitriolick Earths are but heated, and those fiery Particles smothered; which, had they Air to fan and briskly agitate them, would soon break out into Flames, like a Stack of Corn or Hay not well saved. The same thing *Agricola* * tells us, happens now and then in a Mountain in *Misnia* in Germany, near *Zwickau*; where the Inhabitants are obliged to stop up all the open Places, by throwing in the Earth, in order to prevent its breaking out into Flames.

2. Were Subterranean Fire the Cause of this Heat, I am of Opinion our Waters would not always continue to be of one equal Heat: For the Fires

* Lib. de Fossilibus.

in all the Places mentioned burn not steddily with one constant Tenour, but are sometimes scarce discernible, though at other times they break forth with a great deal of Fury and Noife, as there is more or less Fuel to feed them, or Air to agitate them. Besides, if the Sun itself, which is the brightest and most furious Fire we know, has not only its *Maculæ* or Spots, which vary often, as the accurate *Scheiner* has observed in his Opticks, but has also appear'd with a very dim and dusky Hue for several Days, nay, Months together, as *Pliny* and *Cedrenus* tell us; How then is it to be conceiv'd, any Subterranean Fire can burn thus steddily, without any Signs at all of Flame or Smoke, or Earthquakes, with the same Degrees of Motion and Heat at all times? And that our Waters at *Bath*, Winter and Summer, are always the same, with respect to their Quantity, Quality and Heat?

3. I humbly conceive, that if Subterranean Fires were the Cause of the Heat of *Bath-Waters*, the Mixtures would have been confus'd and turbid, the combustible Matter would mix with them, and foul them; so that they could not be of so grateful and pleasant a Taste, at least while they are warm: Whereas at present, by the peculiar Cookery of Nature, they are not only of a very agreeable and delicious Taste, but also of a fine clear Crystal Colour, like Rock-Water.

These Considerations inclined me, I must confess, to believe they rather owe their Heat to Fermentation; because I can easily imagine, how from a Mixture of different Salts dissolv'd in Water, with other Ingredients constantly supply'd by Nature from their proper Seminaries, may follow such a Fermentation and Heat; *Ex Motu fit Calor*: And so according to the Degrees of Fermentation, and intestine Mo-

tion of the Parts, will the Heat be more or less. Let us, for Brevity-sake, conceive the Matter thus: Suppose then, that in the Bowels of the Earth there is a Quantity of Sulphur or Bitumen mix'd with Mineral Steel; suppose also Water passing through this Bed of Sulphur and Steel; the Vi-
triolick Acid of the Sulphur will be soon dissolved; which, by insinuating itself into the Pores of the Bitumen and sulphurous Mineral Steel, may cause a very great Heat; which, if the Earth be porous, and a sufficient Quantity of Air be admitted, to put their smaller Particles into a brisk Motion, may also end in Flames; as I take it, is the Case of the burning Mountains, *Ætna*, *Vesuvius*, and others. This may be illustrated, I think, very fairly by the Experiment of common Sulphur and Steel, which, being powder'd and mix'd together in equal Quantities, with common Water, will produce no inconsiderable Heat, being first well
shook

shook together. And here you will find, in about twelve Hours, the whole Mass will become frothy, and the Heat strong enough to break the Glass: its Colour, that before was Yellow, turns Black, and the Mass compacted and hard. Take this out of your Glass, pound it into gross Powder, and leave it open to the Air; and you shall see, in a little time, it will not only be much hotter than it was before, but visibly break forth with a sulphurous Flame. This seems to me to amount almost to a Demonstration, how Subterranean Fires may be kindled in the Bowels of the Earth, and also hot Springs from one and the same Cause be produced, when you expose to the open Air *Marcasites*, or sulphurous Earths, out of which you make Vitriol; they in a little time will grow very hot: So will the black *Caput Mortuum*, which remains in the Bottom of your Vessel when you sublime Sulphur; for this

also broken a little, and set in the open Air, will grow too hot for your Fingers. Much in like manner it happens in the Mines in *Bohemia*: We are assured from very good Authors, that their Pit-Coal which abounds with Salts, being expos'd only to the Air in a Heap, will not only grow hot, and send forth sulphurous Fume, but actually inflame. So that we have little need, I think, of any other Inquiry, to find out *Acid* and *Alkaly* in those Waters, as the Cause of their Heat, or any *Calx Viv.* or burnt Lime (which I never heard of any where in the Bowels of the Earth) to favour the Opinion of some Chymists, *viz.* That no Materials mix'd can raise a Fermentation, but what have first pass'd the Fire, and been by it calcin'd. 'Tis true, any Acid and Alkaly mix'd together will do the same, as is well known; and the Spirit of Nitre, and Oil of Turpentine, Cloves, or the like Aromatick Oil, mix'd together in a Glass-Vial,

Vial, will actually inflame, almost in an instant. And this I take to be the Reason, why our *Bath Water* keeps its Heat so long, *viz.* seventeen Hours, or more, as Dr. *Pierce* has observ'd, tho' in frosty Weather, and in a Place where the Window was left open all Day; which no Water heated to any degree, by Fire, will do *. From whence the Doctor learnedly concludes (in the place aforesaid), ' That this proceeds not ' from any extraneous Heat, as that of ' under-ground Fires, but from some ' Mineral Particles rather within it- ' self; which, till they are evaporated, ' continue the Water more or less ' warm. And these Mineral Parti- ' cles partly stick closer to the little ' Globules, that make up the Consist- ' ence of Fluids, than those commu- ' nicated by Fire could do.' The *Sieur d'Aygulum*, or *Monfieur Rochas*, in his *Treatise of Mineral Waters*, print-

* Dr. *Pierce* in his *Preface to his Memoirs*.

ed at *Paris* in the Year 1635, has given us the most satisfactory Account of this Matter, I ever yet met with any-where.

‘ This Gentleman, being a
‘ very ingenious Virtuoso, had the
‘ Curiosity, he tells us, to attempt the
‘ finding out the Cause of a hot Spring
‘ he met with in the Mountains of
‘ *Savoy*, and the Nature of its Con-
‘ tents. In order to this, he got Work-
‘ men to dig into it, and trace it to the
‘ Original; which in fifteen Days time
‘ they found. And here, says he, the
‘ Water was very hot, boil’d and bub-
‘ bled up mightily, casting off a great
‘ deal of Scum from it. Digging on
‘ three Days longer, the Water was
‘ quite cold, tho’ one continu’d Stream
‘ with the former, and very different
‘ from it in Taste.’ Upon this he comes
to this Judgment of the Matter, That
the same Water was hot and cold, ac-
cording to the Place it pass’d through;
that this Earth where the Heat was,
could be nothing else but a Mine of
Sulphur

Sulphur (which every body knows abounds with Steel), and that the Water had in it an Hermetick Salt, whose Nature he would not determine. Hence he thinks it very rational to believe, the Spirit contain'd in these Waters, piercing into the Substance of the Sulphur, caus'd that Ebullition and Heat, just as Water cast on quick Lime would do.

Pursuing his Inquiries farther, in twelve Days time more he met with pure sweet Fountain-Water. This is that Author Dr. *Pierce* mentions in his Preface to his *Bath-Memoirs*. He was a Man of considerable Wealth and Parts, and can hardly be suppos'd to impose upon the World. He is an Author very well worth reading in *French*, or as you find him in the end of the sixth Volume of *Theatrum Chymicum*, translated into *Latin*. I know very well many are of Opinion, nothing grows hot by Fermentation, but what has pass'd through the Fire first, as all our

Alkaline Salts have; as Salt of Tartar, Salt of Wormwood, &c. are well known to be chymically prepared by Fire. But that there is also an Alkaline Earth too, that mixes with these Waters, is demonstrable from the *Bath-Sands*; which, mixed with an Acid, soon ferments and grows hot, as I have said before. The Learned *Frederick Hoffman*, in his *Dissert. Phys. Med.* p. 235. thinks there is an Alkaly not only in *Bath-Waters*, but in *Spaw's* too; which he thinks is the Reason they ferment, when mix'd with Rhenish-Wine: That the Nitre of the Antients was a pure Alkaly; that there is an Earth found near *Smyrna* with a great deal of Alkaline Salt in it, which, by the Help of Water, they first dissolve, and then evaporate for the Salt. And he also observes, that all hot Springs abound with acid Springs near them; which, mixing with bituminous Earths, are the Cause of their Heat. This is well known at *Bath*, where the Cold Springs
in

in and about the Town are all harsh and acid.

But, however ignorant I may own myself of the particular Ingredients which compose these Waters, or however unable I am to explain the Cause of their Heat; yet, the numberless chronic Distempers, of the most stubborn Kind, which I have seen cured by these warm Springs, will ever make me adore the Goodness of God, in bestowing so great a Blessing upon the Inhabitants of this Island.

C H A P. V.

Of drinking Bath-Waters.

Pausanias tells us of hot Waters near *Cardia*, that were pleasanter to drink than Milk *. The same Author says, in his eighth Book, That in *Arcadia* there was a Spring, whose Water drank, was an infallible Cure for any Bite of a mad Dog. And *Vitruvius* †, that great Architect and Philosopher, says, that some hot Waters are proper to drink, and others to bathe in. *Hippocrates* commends the Use of warm Waters inwardly ‡. *Scribo-*

* Comment. lib. 4.

† Architectur. lib. 8. cap. 3.

‡ Lib. de Aere, Aquis, &c.

nius Largus commends Steel-Waters inwardly for an Ulcer *. *Ætius* † ascribes very great Virtues to the Use of hot Waters internally. *Galen* commends hot Waters as Cleansers of our Bodies ‡; *Ægineta* for the Leprosy; *Trallian* for the Colick; *Avicen* for Obstructions and inward Weaknesses. *Archigenes* in *Ætius* cries up the Virtues of Mineral Waters, inwardly taken, as very great in Ulcers of the Bladder, and several other Cases. And *Baccius*, *Fallopious*, *Mercurialis*, and many other Moderns, in their Works, have all recommended the Use of hot Waters internally, in many Cases. To conclude my Authorities for the Antiquity of drinking medical Waters, *Henricus ab Heeres*, *Blondel*, and Monsieur *Aubery*, tell us, the Spaw-Waters in *Germany*, the warm Waters

* Cap. 146.

† Tetra. 1. Serm. 3. c. 165.

‡ Lib. 4. de Sanitat. tuend.

40 *Of drinking Bath-Waters.*

at *Aken*, and those of *Bourbon* in *France*, have been drunk time out of mind. But we can't affirm the same of *Bath-Waters*: For tho' they were drank in Dr. *Jones's* Time, as we see in his *Baths of Bathe's Aid*, p. 28. who wrote about one hundred and thirty Years since; yet very few drank them about three and thirty Years ago, when I was there; and most People came thither only to bathe, probably from some conceiv'd Prejudice, that the Ingredients in our Waters consisted of Particles injurious to our Nature. But many Experiences since have convinc'd the World, and recommended them to a general Use. The extraordinary Operation of these Waters in Mr. *George Long's* Case, of *Skipton-Mallet*, near *Wells*, in the Year 1691, gave a very great Reputation to them: For he drank them, and nothing else, except a little Wine now-and-then, for near two Years; by which means, from a perfect Cripple, with Stone and Gout, and a quite broken
Con-

Constitution, he recover'd miraculously, and might be said to have renewed his Age. This Cure first encourag'd those Waters to be drunk so universally, as they now are; being a Demonstration of their great Alterative, Strengthening and Balsamick Virtues. Whoever has a mind to be satisfy'd of this Case, may find it at large in Dr. *Pierce* *.

These Waters then are to be drunk hot from the Pump every Morning fasting, or else at Lodgings, as hot as they can procure them. They are taken hot for the sake of the Volatile Spirit that circulates in them; which being somewhat of a like nature with the universal *Menstruum* or *Alkabeſt* in our Stomachs, does wonderfully restore it, when lost or depraved. And really it is somewhat strange to see its Effect in weak Stomachs, and decay'd Appetites, which are soon reliev'd by drinking

* *Memoirs*, p. 354.

42 *Of drinking Bath-Waters.*

those Waters warm. I have known several brought to *Bath*, reduc'd almost to the last Extremities; whose Stomachs were so very weak and nice, that they could keep nothing in them, but vomited up every thing they took, of either Meat or Drink; and yet such Persons swallow'd these Waters, tho' warm, with a great deal of Pleasure: They sat easy on their Stomachs, nourish'd and refresh'd them so, that in a few Days Time, they began to have an Appetite to Flesh and Fish; and recover'd beyond the Expectation of their Friends. All other Things they took, either Meat or Drink, from the Heterogeneous Particles contained in them, gave an ungrateful Stimulus or Irritation to the inner Coats of the Stomach; so that they were forc'd to cast them up again, soon after they were taken. But *Bath-Waters* consisting almost of Homogeneous Parts, of an Elementary nature, when drunk, were gratefully receiv'd by the Stomach;

mach ; whose Fibres, being very agreeably affected at that time by them, soon communicate their Motion and Pleasure to all the Fibres of the Body ; as Unisons in Musick, or Strings of musical Instruments of the same Tension, immediately move all, one only being play'd upon, be there ever so many in the same Room. This agreeable Motion of the Fibres, and the Pleasure it produces, proves a Cordial to the Person who drinks them, in an Instant, as soon as they are in the Stomach, before ever they can be suppos'd to reach the Blood, and recruit the animal Spirits ; just as a Glass of Water, in a Moment, revives a Man that was spent and faint with Thirst. Now this happens not from the animal Spirits, but from the agreeable Contraction of all the nervous Fibres of our Bodies ; in which consists what we call Life, the total Resolution of
which

44 *Of drinking Bath-Waters.*

which Fibres is immediate Death. *Bath-Waters* are not only a Cordial, as soon as they are taken, but by their humid, balsamick Particles, of so homogeneous a nature, being retain'd in weak Stomachs some time, and conveyed into the Blood, they afford a Nourishment suitable and sufficient, in such languid and low Constitutions; little Digestion or Alteration being requir'd to convert them into a true nutritious Juice, fit for the Nourishment of all the Parts of our Body.

In discoursing then on these so excellent Waters, for Method-sake, I shall confine myself to these following Heads.

1st, The Time when they are to be taken.

2^{dly}, What Quantity or how much Water is required to be taken in a Morning.

3^{dly},

3^{dly}, The Manner of their Operation in our Bodies.

4^{thly} and lastly, To consider of the Accidents that happen to such as drink them.

1st. The first Thing then to be considered is, The Time when to be taken. The most proper Time for drinking these Waters, is the Morning, between the Hours of Six and Ten; that they may have Time to pass off out of our Stomachs before One, the usual Time of Dining. It happens sometimes, as I have observed, that some Persons do not pass them off by Urine till about Midnight, and with extraordinary Success. The longer they stay in us, many times the more good they may do, by mixing more intimately with our Blood, and so altering all the Juices in our Bodies for the better. And this, I take it, they perform, by diluting the crasser
and

and more viscous Particles in our Blood, and dissolving the Saline; so that all the Juices in our Bodies are the better prepared for all the Secretions that are necessary in the Animal Oeconomy.

Upon this Account no one should be troubled, that their Waters do not pass by Urine very quick, provided they find their Stomach not loaded, and the Patient is not at all sick with them; for this argues, that they are passed from the Stomach into the Habit of the Body. But if either of the Complaints mentioned are observed, then Care must be taken to discharge and carry them off by Art: There ought to be two Hours, at least, allowed for the drinking of them; for, if taken too fast, they pass off too quick, or else purge by Stool, and then the Benefit of the Waters is often lost. The Exercise between each Glass should be very moderate, lest Nature should be disturbed; and that thrown off by Sweat, which naturally
should

should have been discharged by Urine, as *Baccius* has observed *.

'Tis a Query among Authors, whether hot sulphurous Waters ought to be drunk in Winter; and carry'd in the Negative: Because, they say, Convulsions have often happen'd upon drinking them in that Season. 'Tis certain these Waters, as to Taste and Heat, are the same, Winter and Summer: And infallible Experience tells us, they may be drunk at any Time of the Year with Success, if the Case require it. All the Objection I know against drinking them in the Winter, is, the Danger of catching Cold upon the Use of them in cold Weather; one of the worst Accidents that can happen to any body in the Course of drinking *Bath-Waters*. My Reason for it is this: Because by the Catarrh the whole animal Oeconomy is

* Therm. lib. 3. cap. 3.

48 *Of drinking Bath-Waters.*

confounded, the Mixture of the Blood disturbed, the Glands and Lymphaticks are obstructed; and no natural Secretions regularly performed, as they were before the Cold was taken. So that all the Summer Months are most proper for drinking, the Weather being hardly ever too hot for the Use of *Bath-Waters*; and the new Notion of the first and latter Season is ridiculous; *March*, and part of *April*, as also part of *September* and *October*, being many times too cold and windy, for Water Drinkers. Such indeed as content themselves to winter there, and drink them all the Year, as is necessary in some stubborn Cases, may watch their Opportunities of favourable Weather. See *Fallopious de Aq. Therm.* p. 235.

The usual Course of drinking these Waters is five or six Weeks, but in some Cases more: And if I don't mistake, Mr. *George Long*, of whom before in this Chapter, told me, He drank little else

for about two Years; and met with the greatest and strangest Success imaginable, by his Perseverance with so much Patience. Ordinarily six Weeks are enough, and then they should be discontinued for awhile, to be after a proper Interval again taken, if the Case requires a longer Time. I have often observ'd in some that have drunk them too long, that they would not only take off their Appetite, but also make them sick at Stomach. This is an Indication, for the most part, when it is Time to leave them off: And then a few Doses of bitter Wine in the Morning, and a gentle Purge, set them right in a few Days, and they reap the Benefit they expected. These Waters cold at any Time, with or without Wine, are the common Drink at or between Meals, Malt-Drinks being to be avoided by many; especially in Colicks, from its being a fermenting Liquor, or in any Diseases or Infirmities of the Bowels, because of its loosening and relaxing Faculty.

50 *Of drinking Bath-Waters.*

'Tis customary also at five or six in the Afternoon, among a great many, to drink a Glass warm at the Pump, or at their Lodgings, and sometimes going to Bed, as proper to complete Digestion, and promote Rest; which agrees well with some Persons.

2dly, The Quantity of these Waters to be taken is from one Pint to three Pints in a Morning; some may take two Quarts: Few Constitutions require more.

I remember a Gentleman sixteen Years ago, who was then my Patient, would drink five Quarts every Morning; fancying, if a little would do good, a great deal would do much more. I foretold him the Consequences, which fell out accordingly; for in a little time he had stretch'd the Tone of his Stomach too far, and palled it to that degree, that he quite lost his Appetite to all manner of Victuals; which was very good before: But this,

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by the Help of a gentle Vomit, and bitter Stomachick Wines, was soon restor'd, and he sufficiently convinc'd of his Error. To adjust, however, the Quantity every one should take, is impossible; and many fruitless Journeys to *Bath* are made on that account, for want of knowing the sufficient Quantity or Dose their Constitution or particular Case then required.

There is more Nicety in this than every one will at first imagine: For tho' the *Bath-Waters* are one of the pleasantest, easiest, and best Remedies we have in most Chronick Distempers, yet they too often prove ineffectual, for Want of Conduct in the Use of them. The Dose is half a Pint at a time, in most Circumstances; sometimes the third Part of a Quart. They that drink a full Pint at once, I am apt to believe, are very little the better for it, and overact their Part, except in some very few Cases; as where the Person has been accustomed to large

Draughts, or is troubled with Gravel or Stone in the Kidneys; which may sometimes, with Discretion, require it.

3dly, The Manner of their Operation: And here I shall not, as some do, attribute all the Virtues of these Waters to the Spirit that is in them, but to the whole Composition. I believe their Heat, which is little more than that of our Blood, with the Salts and other Ingredients, tho' small, that are in them, may concur to make them easy to the Stomach: And that the watry Vehicle too is of some Use, in dissolving and altering the vitiated Juices that are lodged in the plulhy Coats of the Stomach, and conveying them from thence into the Intestines; where by means of the Peristaltick Motion, some of them pass through the Lacteals into the Blood, and the rest are thrown off by Stool, often by a gentle Looseness, upon first drinking them.

The Stomach, a principal Part in the animal Oeconomy, being thus cleansed and strengthened, must retain and digest whatever it receives the better, and convey its Juices, the more simple and homogeneous, to the Blood; and all the Parts of the Body will be recruited with such kind Juices as are proper for their Nourishment. Besides, these Waters afford a simple Nourishment to the Patient at that time, the Fibres of whose Stomach are not able to bear any more compounded Food. This watry Vehicle, as I call it, passing through the Lacteals into the Blood, by its diluting Quality, renders all the Juices of our Bodies more fluid; promotes their Circulations and due Secretions; and thus sweetens them, and so becomes of universal Benefit to the whole animal Oeconomy. By the Help of these Waters, Obstructions of the Spleen and Liver are removed; and the Kidneys, Bladder, and Womb, cleans'd and strengthened; and all vis-

cous phlegmatick Particles, or Gravel, diluted first, and after carry'd off by the proper Passages Nature has design'd for their Discharge. This diluting Quality it has, not only attenuates and dissolves the more tenacious and viscid Particles in our Blood, but digests and exalts them too, by promoting their progressive and intestine Motion, and so rendering them more capable of recruiting the animal Spirits, whose Elasticity or Spring was almost lost. There is one Advantage more by this watry Vehicle; and that is, that it dissolves the whole Compages of the Blood and Humours; whereby Nature is enabled to throw off by a natural Discharge, through the common Emunctories, what offends her, the more phlegmatick viscid Particles by Stool, the more watry by Perspiration, the more saline by moderate Sweat and Urine. These are the ways, I humbly conceive, Nature takes, when she co-operates

rates with these Waters, in not only restoring weak Stomachs and decayed Appetites, but in removing all other chronical and lingering Distempers whatsoever, by supplying us with kinder and better nervous Juices, and more active Spirits. Now if these Qualities I have mentioned are in the Waters, as I fancy they are too sensibly evident to be denied; then what more universal Remedy can we expect in such Cases? Most certain it is, that which carries off the too viscous and saline Particles that offended in our Blood, sweetens all the Juices that remain, and renders them more fit for animal Spirits and Nutrition, the chief Design of Nature: Then all the Functions and Offices in our Bodies must become regular; the whole animal Oeconomy kept in good Order; and Health, the greatest Blessing upon Earth, supported and maintain'd. Thus we see here, in one View, how Drop-

56. *Of drinking Bath-Waters.*

fies, in the Beginning, before the Tone of the Blood and solid Parts is too much weakened; and Consumptions not too far gone, and the Lungs become too flabby; as also all Cachexies, Scurvies, Catarrhs, Scabs, Itch; all Fluxes whatsoever, and their Consequences; by drinking these Waters, may be remov'd, and a vigorous Life prolong'd.

4thly and lastly, The Accidents that happen to such as drink these Waters, are next to be consider'd, and taken care of, as there is occasion; and they are these following. 1. Purging too much. 2. Sickness at Stomach. 3. Vomiting. 4. Sleepiness.

1. Purging too much. These Waters are not of the Purging kind, their genuine Operation being more properly to strengthen the Habit of Body, than evacuate by Stool. And here the most experienc'd *Sydenham's* Rule

Rule is to be remembered *, *Etenim hoc est firmiter retinendum, quod quoties cujuscumque morbi Curatio Remediis corroborantibus innititur, Evacuatio- nes qualescumque eæ fuerint, officiunt prorsus*: (i. e.) where Strengthening is requir'd, all Sorts of Evacuations are hurtful. However, 'tis not unusual for them, in the Beginning, to purge of themselves, in some Constitutions, without any Help of Purgatives at all; and this continues gently several Days together, with Advantage to the Patient, which I conceive happens thus: The Waters dissolve and carry off with them some viscous Juices and Salts, that were in the Stomach and Intestines; and this proves a very great Relief to Nature, and renders the Waters much more effectual in the Course of them afterwards.

But if the purging continues, and the Patient grows weaker with it, it is

* Tractatus de Podagra.

then to be looked upon rather as a Colliquation of the Humours, or some great Weakness in the Intestines, than any kind natural Discharge; and so must be taken care of by Remedies suitable in such Cases: For otherwise the Waters become injurious to the Patient, who declines visibly every Day under their Use; the Stomach and Appetite fails more and more, and the Malady, be it what it will they drink the Water for, increases on them daily. Now it is very obvious to common Apprehensions, that these Waters not passing the lacteal Vessels, nor entering the Mass of Blood, cannot be supposed to be of much Use to the Animal Oeconomy. In this Circumstance the Patient should drink the Waters slowly, and in small Quantities, or in Bed; for drinking them fast, and in too great Quantities, often occasion their going off by Stool; and the warm Bed may help too, by promoting Perspiration. To prevent this, good warm comfortable Things

Things are best; as bitter Wines, *Gascogn-Powder*, *Goa-Stone*, *Steel*, *Coral*, *Cinnabar* of *Antimon*. *Diaphoret*. *Antimon*. &c. and sometimes a little *Rhubarb* and *Diascordium* going to Bed, with a *Cordial Draught* to wash it down. By these the *Tone* of the *Stomach* may be recovered, and so the *Waters*, in a little time, perform their *Office* regularly. This Accident happens oftener to *Women* than *Men*, especially to such as are *Hysterical*; whose *Stomachs* are generally foul, their *Digestions* bad, and the *Fibres* of the *Membranes* of their *Stomachs* and *Intestines* so very weak, that they contain them but a little while, and they slip through them with little Alteration. When this happens to *Men*, 'tis for the most part to such as are very *Hypochondriack*; which is but a different Name for the same Thing; and *Vapours* is the common Name to both these Complaints.

Purging too much with *Bath-Waters* happens now-and-then to Cholerick Constitutions, from the Acrimony of the Bile irritating the Intestines, and stimulating the Peristaltick Motion of the Guts too much at that time. If at any time they purge strong Constitutions, and they feel little or no Inconvenience by its Continuance; 'tis because the Body was very foul before, or that they were naturally accustomed to many Stools. And yet I have known some strong, yet gross Constitutions, so fond of this Operation of these Waters, that they have continued them long enough to bring them into fatal Dropsies. This then is seriously to be consider'd, whether Nature be reliev'd or oppress'd by the Waters; according as that appears, they are to proceed in the Use of them, or omit them for a time, in order to prepare the Body to receive and retain them to more Advantage. Take this then for a general
I Rule;

Rule; If the Purging continues, and Appetite and Digestion fail, the *Bath-Waters* do more Harm than Good.

2. Sickneſs at Stomach. When theſe Waters paſs out of the Stomach very ſlowly, the Acrid and Heterogeneous Juices are there mixed with the Waters, the Stomach is fuller and diſtended, and the Fibrils of its Membranes touch'd in more Parts than when lank and empty; which cauſe theſe unpleaſing Vellications we call Sickneſs at Stomach. This I have frequently obſerved in the beginning a Courſe of theſe Waters; and it has continued for a Fortnight, not without Pain, and a continual Weight. This has chagrin'd ſome Men, and made them angry with the Waters; who, with the Help of gentle Purges, ſome good Ecphraſtick warm Medicines, Patience, and Perſeverance in drinking on ſome Time longer than ordinary, have met with their deſigned Effects, and gone away very well ſatiſfied. Sometimes drink-
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ing the Waters on a foul Stomach, without sufficient Preparations, may occasion this Disorder. A Dose or two of the Salts are not enough, many times, to carry off the tough viscous Humours that stick so close to the inward Coat of the Stomach, that nothing gentle can reach them. Some of these depraved Juices, and their vitiated Salts, mixing with the Waters not yet gone out of the Stomach, cannot but occasion Fermentations, and such irregular Motions as must affect it in such a Manner as to make one sick and uneasy under it. In such Cases a Vomit, or a brisk Purge or two in the Beginning, is necessary, and ought not to be neglected. Diureticks also in this Case are of Use, as *Tinct. Chalyb. Tinct. Sal. Tart. Flor. Sal. Armon. Pulv. Diuret. Fuller.* and such-like Medicines as these; which by attenuating the Humours, and irritating the Fibres of the Stomach a little, help to promote the Peristaltick Motion of the

Intestines, and to convey the Waters into the Blood. I am inclined to believe, that the not passing of these Waters is chiefly owing to the Defects of the Stomach and Intestines, and their Foulness or Weakness; and it very rarely happens from any Affections of the Kidneys. But when it is plain the Kidneys are in fault, from Gravel, or any viscous Matter causing Obstructions there, that must be looked upon as the original Disease; and such Medicines as are proper in that Case, must be added to the Waters.

3. Vomiting is an higher Degree of the former Sickness, and proceeds generally from the same Causes. This happens now-and-then, but not so often with these Waters, as Purging does. Several Persons come to *Bath* every Year, 'tis well known, with a Prejudice against drinking hot Waters; yet find quite contrary Effects to what they expected; nothing sitting easier on their Stomachs.

64 *Of drinking Bath-Waters.*

Stomachs. Nay, 'tis most certain, *Bath-Waters* will stay Vomiting; and when the Stomach is too nice, and kecks against every Thing else, these Waters will not only remain, but also refresh and strengthen it, as I said before. But some Stomachs are so tender, and abound so much with acid or acrid Juices, that they cannot bear the least Irritation, and therefore throw up the Waters immediately, because they put the Juices in Motion, which vellicate the too sensible Fibres, and so produce Vomiting. In this Case gentle Vomiting, and Purging, bitter Wines, Steel Medicines, bitter Drops, and good Ecphractions with the Waters, or a Glass of good *Madera* Wine, an Hour at least before Dinner, are proper Remedies.

Now as I said before of Purging, so I say of Vomiting here in this Place: To some Persons 'tis rather a Relief at first, than any ill Effects of the Waters; which must be consider'd in due time.

time. Some I know vomit with these Waters, who have naturally small Stomachs, by taking off their Glafs too fast. Such as are wise enough to know the Cause, cannot fail of their Cure.

4. Sleepiness. And this happens very often to Water-drinkers, as well at *Tunbridge* as at *Bath*. I am of Opinion, when these Waters remain in the Mass of Blood, and are not carried off by the Emmunctories, but fill and distend the Blood-Vessels, that by pressing on the cortical Part of the Brain, or relaxing the Fibres of the Meninges too much, they hinder the Separation of the nervous Juices or animal Spirits; and so they cause this Drowsiness and Sleepiness, which goes not off till the Waters are discharg'd from the Blood. There are few that drink these Waters, but find this Effect of them some time or other; therefore it must be from some general Cause, and I know none more general than what I have assigned, and submit to the
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Judgment of the Learned. Nobody ought to sleep till their Waters are pass'd; and in this Case particularly Sleepiness is not to be indulg'd, by lying down on a Bed or Couch, because that horizontal Posture carries more Blood up into the Head, which may cause Obstructions, Head-achs, and other Disorders there. A little moderate Exercise, and agreeable Company, soon carry it off without any Physick. There is one Complaint more to be added to these mention'd, which is, that they make some who drink them, as they express it, drunk, which they fancy proceeds from the Strength of the Waters. This, I take it, is nothing but a Vertigo, which happens from a foul weak Stomach, and not from any spirituous Particles; such as the sulphurous Spirits which are in Wine. *Vitruvius*, I know, tells us, *Sunt Fontes quasi vino mixti, quemadmodum unum est Paphlagoniæ, ex quo etiam sine vino potantes fiunt temulentæ*, lib.

8. cap. 3. That there are Fountains which make those drunk that drink them: I am apt to think just in the Manner, as *Bath-Waters*, and all Waters will do; that is, give the Drinker now-and-then a Giddiness, which they call Drunkenness.

Before I dismiss this Article of drinking *Bath-Waters*, I must observe also, that they are sometimes, and in some particular Cases and Constitutions, drunk cold upon the Place, with Success, when their Heat, if drunk directly from the Pump, would aggravate all such Diseases as tend to an inflammatory State. I acknowledge it has always been the receiv'd Opinion among Authors, that medicinal Waters should be drunk as near the Fountain Head as possible, because they soon lose their mineral volatile Spirit, by standing. This is true in all Cases in which that mineral Spirit is safe and useful: But in others in which it would be hurtful, as in all inflammatory Cases
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68 *Of drinking Bath-Waters.*

it would be, they can only be drunk safely, when that Spirit is flown away. But some Persons would have us believe, that when that Spirit is gone, the Waters have no Virtue remaining in them. But this Opinion is refuted by manifold Experience, and the constant Testimonies we receive from all the distant Parts of the Kingdom, of their proving useful in many Cases, even after they have been bottled a long while, and *that generally not with proper Care.* The great Quantities every Year exported to all Parts of *England, Scotland, and Ireland,* are likewise a strong Proof of their doing Service at a Distance; for if they were found to be good for nothing, People would soon be tired of procuring them at so great a Price.

This Doctrine of the Waters so immediately losing *all* their Virtue, obliges many to take them at the Pump, that ought to drink them at home at their Lodgings. The very Fatigue of
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the Walk is too much for some, and many Inconveniencies attend it. The Waters agree best with some, when they use no Exercise at all, during the Time of drinking them. Some I have known have taken them in Bed, because they never found they pass'd so well with them out of it. There are various Constitutions that require peculiar Directions, according to the Circumstances that occur; and no general Rule can be laid down that will comprehend all of them. There is this one common Inconvenience I have observ'd often to happen to Water drinkers at the Pump in bad Weather, which is their taking Cold; by which their Course of drinking is for some time interrupted, if no worse Consequences follow. I therefore think, that such tender Persons may drink them with more Safety at their Lodgings, convey'd in Bottles well stopp'd, and wrapt up in warm woollen Cloths, when the exposing themselves to the Inclemency of
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70 *Of drinking Bath-Waters.*

of the Season, in order to drink at the Pump, is attended with so much Hazard to their Healths. But where no particular Circumstances forbid, the Waters are certainly best at the Fountain-Head; and when they are to be drank cold, they are undoubtedly more efficacious when they have only stood a few Hours, than when they have been bottled many Weeks; during which Time their Contents are continually precipitating to the Bottom of the Bottle.

C H A P.

C H A P. VI.

Of B A T H I N G.

HAVING said so much of Bathing in general, in my first Chapter, I come now to speak of the Use of our hot Baths, in particular. Their different Degrees of Heat render their Use more general in various Constitutions and Cases; and it is of no small Importance to the Patient, which of them he goes into. But into whichever he goes, a due Preparation is necessary. The Blood-vessels should not be too full; and the *primæ viæ* should be cleansed; without which Cautions Bathers are liable to Head-aches, Fevers, &c. and so not only lose the Benefit they came for, but return to their Homes much worse than they came.

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In discoursing upon this Subject, I shall confine myself to these Heads :

First, What time we must bathe.

Secondly, The Manner of its Operation.

Thirdly, The common Accidents that happen to Bathers.

First, The Time of Bathing is the Morning, fasting, Winter and Summer. In the Morning, because refresh'd with a Night's Sleep, we are the better able to bear Bathing; and Digestions being compleated, we are not so subject to Disorders which arise from Crudities, such as Obstructions, Head-aches, &c. And fasting too, because the natural Heat being sent out towards the Circumference, by Bathing, Digestion would be disturb'd, were we to go in with a full Stomach, and the whole Animal Oeconomy put out of Order, for want of a regular Dissolution of the Contents in the Stomach.

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This is taken notice of by *Juvenal*, as one of the Debauches among the *Romans*, that they went into their Baths, soon after they had eaten :

—*Et crudum Pavonem in Balnea
portas :*

Hinc subitæ Mortes, &c.

Which he and *Perfius* too, in his third Satire, assign as the Cause of many Diseases, and sudden Death. Fasting then before, and in the *Bath*, is best; and a Glass or two of the *Bath-Waters* warm in the *Bath*, is Refreshment enough; which not only quenches Thirst in the *Bath*, but also promotes Sweating after. An Hour in the *Bath* is long enough: But that, and the Sweating after, and what *Bath* is best, must be regulated according to the Patient's Occasion and Strength. After Bathing, between that and Dinner, one Glass of Wine, or a Dish of Chocolate, may not be amiss, when Sweat-

ing is over, and the Body restored to its natural Temper and Quiet; for before, it will be apt to cause Vapours in the Head, and Crudities and Indigestions in the Stomach. People who have Occasion, bathe in Winter too, when the Winds are not high; which often proves very troublesome to Bathers, even in the Summer-time, as well as in Winter: Which Inconvenience might be easily prevented, as I have shewn in the Description of the hot Bath.

Secondly, The Manner of the Operation of Bathing upon our Bodies, which I take to be by these two ways.

1st, These Waters, by their natural and innate Heat, when we bathe, cause a better Digestion in our Blood, by attenuating its Parts, and promoting its intestine Motion and Heat. To this also the Sweats, after in Bed, contribute not a little, by evacuating from all the Parts of our Bodies, what was

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necessary to be thrown off that way. So that this must be of great Use in all cold and phlegmatick Constitutions, whose native Heat is weak: For it warms the Blood, strengthens the Tone of all the Parts, and invigorates the Body. Hence it is that Palsies are cured by bathing in these Waters, tho' the Parts are relaxed; because they warm the whole Body, invigorate the Spirits, and mend the Animal Oeconomy; And Nature being thus refresh'd and strengthen'd, the Blood is more digested, and the Tone of the Parts restored, that were relaxed before. So that these Waters, outwardly and inwardly, not only relax, but have their contracting Quality too; which is very well worth our serious Consideration.

2. They soften all the Parts that are harden'd and contracted by Cold, and discharge all the Heterogeneous Matter, that is impacted in obstructed Vessels. Thus all Contractions of the Tendons, and all Shrinking of the
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Nerves, as well as Paralytical Relaxations, tho' contrary Diseases, are cured by the *Bath-Waters*: For by supporting Nature, they become of universal Good to the whole Animal Oeconomy. In a word, these Baths are to be esteemed, not only for Pleasure, but for their Usefulness in the Preservation of Health: For there are no Forms of Remedies so comfortable to any Body, that ease Pain and Weariness more speedily and more effectually, and may be of more general Use to all Sexes, Ages, and Temperatures with due Caution.

I shall conclude this Head with that Saying of *Oribasius*, lib. 10. cap. 2. *Balneorum sponte nascentium multo major & efficacior Vis est, quam eorum que Arte parantur*: That is, Natural Baths are much better than any Artificial ones whatsoever.

Thirdly, The common Accidents that attend Bathing, I shall reduce to these few.

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1. There happen sometimes, by irregular Bathing, Heats over the whole Body, or else an Inflammation in some particular Part, which are to be removed by Bleeding, Purging, Clysters, a cooling, moist, low Diet; and such Methods as are used in the common Fevers and Inflammations. And here, by the way, I would advise all Persons that are troubled with Gravel in their Kidneys, or Obstructions in their Lungs, to avoid Bathing; as also when the Body is costive.

2. A very great Thirst, which may for the most part be prevented, by drinking some Glasses of the Waters in the *Bath*, and out of it afterwards; and also by forbearing Bathing for a time.

3. Violent Sweats: These are a plain Indication, that Bathing is to be left quite off, or at least, that the most temperate Bath is best. Perhaps here cold Bathing may be of more Use than

any Bath whatsoever, of any Degree of Heat.

4. Loss of Appetite. If this happens only the Day they bathe, it soon goes off again, being only occasion'd by the little Disorder and Heat the Body is put into that Day. But it is best not to bathe for some Days.

5. And, lastly, A costive Body. This, as well as the fore-mentioned Symptoms, are all occasion'd by the Heat of the *Bath-Waters*, and for the most Part owe their Original to irregular Bathing, (either the Constitution being too hot, and too sanguine, or else the Person staying in too long), and fall under one Consideration; and that is, of an Inflammation, or too great Heat of Blood. A gentle Purge with the Salts and Cremor Tart. and a cool Diet, will seldom fail to carry off this last Complaint. In fine, they have all one common Cause; the Indication is plain, and the Cure easy.

I cannot dismiss this Head of Bathing, without giving some Account also of Pumping, frequently in Use at *Bath*. This is either in the *Bath*, upon a particular Part, according as there may be occasion; sometimes on the Head, Neck, Shoulders, Arms, or Legs; and sometimes out of the *Bath*; which is called Dry-Pumping, and is usually done at Night, going to Bed; the Part kept warm, wrapt up in Flannel. This is of very great Use in particular Cases and Constitutions, in which total Immerfion is forbid.

Pumping requires the same Preparations Bathing does, and is sometimes attended with the same Accidents, which require the same Method of Cure. This was formerly done by Buckets, and was like what the *Romans* called *Stillicidium*, and the *Italians* meant by *Doccia*. But 'tis certainly much better by the Pump, whose continued steddyy Motion conveys an uninterrupted Warmth to the Part;

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which is more agreeable to Nature than when done any other way, with Intermiſſions. Both in and out of the Bath, they uſe theſe Pumps as the Caſe requires, from two hundred to a thouſand or more Strokes at a time.

I ſhall only add, That ſuch as are of a very dry hec tick Conſtitution, or are much emaciated, and ſubject to Spitting of Blood, St. *Anthony's* Fire, Difficulty of Breathing, or any Symptoms of Inflammation, ſhould bathe with great Caution, or rather avoid it.

C H A P. VII.

Concerning D I E T.

AS to Diet in the Course of the *Bath-Waters*, I must needs say, I have observ'd too much Liberty taken by a great many, that are at the Pains to come to the *Bath*, with a Prospect of mending their Constitutions, and regaining their Health. The want of considering this important Article has, I am fully persuaded, oftentimes hindered the good Effects of these Waters, in many Persons, whose End in coming to *Bath* had been answer'd, had they been prudent, and liv'd by Rule. I shall not enter into a strict Detail of every Particular relating hereunto, it being impossible to adjust

it to all Cases, what every one should eat and drink; but shall only say in general, That at *Bath*, as well as in all other Places, the more simple the Food is, the better it is for the Patient: Compounded Victuals, mixt Meats, Varieties of high Sauces, &c. make too compounded and vitiated Juices in our Bodies; and by consequence, complicated Diseases. *Mercurialis* * says, In antient Times Mankind was contented with little, and liv'd frugally and sparingly; and then Diseases were not known, or their Names so much as heard of; high Feeding and dainty Dishes first introduced both. In general, therefore, the most simple Diet, and Meats of the easiest Digestion, are necessary during a Course of these Waters.

As to Malt-Drinks, I am of Opinion, when the Stomach and Intestines are weak and slippery, they ought wholly

* Lib. de Art. Gymnast. p. 1.

to be avoided, lest their Fibres should be more relaxed by them, and the Waters pass off by Stool, and lose their proper Operation and Virtues. In this case, Wine and cold *Bath-Water*, or Water with a Toast put hot into it, is the proper Drink.

As to Wine, I take *Madera*, where it may be had true and good, to be the best to mix with Water, or to take a Glass of now-and-then alone, as a Cordial; because of the Dryness it leaves in the Mouth, the Strength of its Spirit, and the little Tartar in it; which argues it a very good Stomachick Wine. Good Sherry, or White *Lisbon*, all dry Wines, as they are called, because they leave a Dryness upon the Tongue, and strengthen the Coat of the Stomach, hold the next Place.

Men used to Claret may drink that moderately; and others, who are accustomed to the Use of Malt-Drinks,

and labour not under the Infirmities afore-mentioned, may drink good clear Small-beer at their Meals, especially if they are subject to Costiveness.

There is one thing more not to be omitted here; and that is, that these Waters are apt to create great Appetites: But we should not indulge ourselves too much, nor over-charge the Stomach at any time; and slight Suppers, and early, are much better than going to Bed upon a full Stomach, for such as desire any Benefit by the *Bath-Waters*: For whoever drinks the Waters in the Morning, upon a full and indigested Supper, must not blame the *Bath-Waters*, if they do not their Office that Day, as at other times. Upon the Whole, What we eat, should not only be of easy Digestion, but our Diet should consist of such Meats as afford not too much Nourishment or Moisture. Hence it is, that roasted Flesh is better than boiled; and what

is well roasted, better than what is under-done. And by the same Rule, all Summer-Fruits should be used with Caution, and Garden-stuff with Discretion; lest we nourish the Disease, instead of curing it.

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is well tested, better than what is
under done. And by the same Rule
All Summer-Times should be used with
Caution, and Garden Salt with Dis-
cretion; lest we nourish the Disease.

CHAPTER VIII.

Of the VIRTUES of Bath-Waters in particular.

IN my foregoing Chapter, I have given some short Hints of the Use and Virtues of *Bath-Waters*, externally us'd, or internally taken: I shall in this entertain the Reader with some certain Cases, which most frequently occur at *Bath*. These Waters then are, both ways apply'd, of a strengthening, cleansing, attenuating, opening, loosening Nature. They move Urine sometimes, cause Stools gently, and also Sweat, by which they cool the Blood. They comfort the Nerves, warm the Body, and are good in all cold

cold Constitutions; and by the emollient Qualities in them, soften and moisten our dry and rigid Fibres, and are good in all the Cases following.

1. In scorbutick Rheumatisms, and old wandering Pains in any Parts of the Body, by both bathing and drinking, when the Pains are not attended with any feverish Heats. By drinking these Waters with due Preparations by proper Evacuations, the Stomach is in the first place cleans'd, the Blood diluted and attenuated, and the scorbutick Salts discharg'd from the Blood by Urine: By Bathing the Pores are opened, and the Salts that lodg'd in the Interstices of the muscular Fibres and Membranes, are thrown off by Sweat. The Catarrhal Rheumatism, which is attended with a Fever, where the Blood is very fizy, admits of drinking the Waters only, and that not till the Violence of the Fit is over, and the Fever gone, to carry off the Relicks of the Disease, sweeten and attenuate the

the Blood. And here, if I am not mistaken, it may be admitted as a general Rule, That where the Blood is fizy, Bathing must be used with Caution. By drinking then of these Waters only, I have often known the remaining Pains of this sort of Rheumatism very successfully carry'd off, and the Weakness in the Joints also, without any Help by Bathing at all. The Reason that forbids Bathing in this Case, I take it, is, because all the Siziness and Viscosity of the Blood is not quite gone; which renders it apt to inflame again upon so great a Heat, as that of Bathing.

2. In Palsies, as well from Repletion as Inanition. I remember about thirty Years ago, when I was at *Bath*, before the Fashion of drinking these Waters obtain'd so much, Palsies, Convulsions, Contractions, Rheumatisms, Lameness of all kinds, Womens and Childrens Cases, were the common Complaints there to be met with;
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and for the most part the unhappy Occasion of the Resort there every Year, was for Bathing chiefly. Bathing then was us'd, and that very successfully too, in Palsies, as Dr. *Pierce* in his Memoirs has, from his own Knowledge of the Fact, inform'd the World. But of late I find, since the Use of the cold Bath hath, from some Successes it has met with, been encourag'd, Bathing here in this Distemper is laid aside, by such as will not easily allow, that hot Baths have their contracting, strengthening Faculty, as well as the cold. *Vid. Willis* *, who relates a Case of a *Paralytick* Merchant cured by temperate Baths. 'Tis true, 'tis a very stubborn Case, and many times requires more than one Summer or two to complete the Cure. And certainly I think 'tis worth while to compound, tho' at a dearer rate, for the Resurrection of a mortify'd Limb or two:

* Cap. de Paralyf.

Not that I deny the Use of cold Bathing ; but what I said in my former Essay on *Bath-Waters*, I must now repeat, That Drinking and Bathing here, with proper Remedies, are the best Preparative in the World for the cold Bath, in this Distemper, and many others. All the Caution to be Used in Bathing, in this Distemper, is nicely to observe, whether the Patient can bear Bathing, or not ; and not to persist in it, if it appears, upon Trial, to be injurious to the Constitution : For it will not agree with all Temperaments. Nor are all the Baths alike in this Case ; the hotter often the better.

Some Years ago, at the *Bath*, a Doctor of Physick told me, that he knew one in a Palsy, who try'd the cold Bath a long time, to no Purpose ; but coming to *Bath*, drinking and bathing there for some time, and using the cold Bath afterwards, it had its Effects. The Blood being sweetened and invigorated, the Skin cleans'd, and the Pores

Pores open'd, no wonder after all these Operations and Discharges, the cold Bath succeeded better than at first.

There is a sort of Palsy occasion'd by a bilious Colick; of which, under that Head, I shall say more.

3. In the Colick, I mean the Bilious Colick, from the Spasms and Convulsions of the Coats of the Stomach and Intestines. In this Case the peristaltick or progressive Motion of these Parts, which serve for the Protrusion of their Contents, is perverted by the irregular Contraction of their Fibres; which at this time causes those exquisite Pains this Distemper is attended with, as also those violent Vomitings, Costiveness, and the like. Now all these severe Symptoms, to say nothing at this time of the Illiac Passion, which is the Excess of this Distemper, I am inclin'd to believe, are occasion'd by the Viscidity or Sharpness of the Bile, or some Obstructions about the Gall-Bladder, or
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common Duct. In this Case I have frequently known Bathing and Drinking very successful to such as have been subject to colick Fits; not us'd in the Fit, but in the Intervals, in order to carry off the Cause, and as a Preservative from any Returns.

These Waters then, by cleansing and warming the Bowels, diluting and exalting the Blood and Bile, promote the peristaltick Motion of the Guts regularly; the Chyle is duly separated and secreted through the Lacteals, and the Excrements convey'd by Sieve as they ought to be, and all the Symptoms and Complaints cease. In order to make the Waters more effectual, we use gentle Purgings now-and-then, and some bitter and nervous Medicines, as necessary in this Case.

In this Colick, which *Citellus* calls *Colica Pictonum*, or *Bihosa*, describing very particularly all the direful Symptoms that attend it in the *West-Indies*, and sometimes here in *England*,

land, at the End of this Distemper, when the Symptoms are all gone off, and the Patient thinks himself reliev'd; then of a sudden the Matter being translated to the Head, they become apoplectick, epileptick, convuls'd, and blind; which if they survive, the Matter being thrown off on their Hands and Feet, they remain Cripples for many Months, and not able to help themselves, walk, nor stand. In these uncomfortable Circumstances I have known Bathing of great Service, by restoring them to the Use of their Limbs; which I think may serve to make good my Argument, in the Article concerning Palsies; That hot Bathing is indued with a corroborating, as well as relaxing Virtue, and that its Use in that Distemper ought not wholly to be laid aside.

4. Consumptions, if taken in time, and in the Beginning, before gone too far, the Lungs not too much weaken'd and relax'd, or flabby, nor the
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Tone of the Stomach spoil'd; and then these Waters not drunk hot at the Pump, but suffer'd to stand a little till rather colder than hotter than our Blood; which in this Case can bear no Impressions of Heat, but to its Disadvantage. By the Help of these Waters, a very few Pectorals, testaceous Powders, and Opiates, the hectic Heats and Night Sweats are effectually remov'd in a little time. They are, without doubt, much safer than our common Pectorals, which in my Opinion ought to be used with great Caution and Judgment; they weaken the Tone of the Lungs and Stomach too, cause Loosenesses, want of Appetite; and promote, rather than prevent, the Influx of Humours on the Lungs, occasion'd by the Catarrh. A confirm'd Phthisis or Consumption, is beyond the Power of our Bath-Waters, either hot or cold, and requires only a palliating Method to make the Patient easy; which is better

ter perform'd by Abstinence from Flesh, a Milk, and Milk and Water-Diet, Conserve or Sugar of Roses and Diacodium, than by all the pompous Medicines in our Shops.

5. In an Asthma, or Shortness of Breath. This happens in plethorick Constitutions and a viscid Blood, which passes not freely through the small capillary Blood-vessels in the Lungs, or from a catarrhal Defluxion upon them. By both these the *Bronchiæ* or Windpipe is streightened, so as not to admit Air enough for the Blood. Now *Bath-Water*, the natural Balsamick and Dissolvent, soon divides the viscid Blood, after breathing a Vein, as there may be occasion; and enables it to pass the small capillary Blood-vessels, and make room for Air, so necessary to Life. In a catarrhal Asthma, where the Habit of the Body seems full, the Blood hot and fizy, care must be taken, that the Patient drink them not too hot, and that his Lodgings
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are as airy as possible. Spasms or Convulsions in any of the Organs of Respiration may be the Cause of this Malady too, from a vitiated nervous Juice, in which these Waters are proper, as great Sweeteners of the Blood, and nervous Juices.

6. In Dropfies from a Weakness and Indigestion in the Stomach: So that the Chyle and Nourishment, when brought into the Blood, is crude and unfit to be assimilated with it, and made Blood; and so is thrown off upon the muscular and membranous Parts in the Habit of the Body, which we call an *Anasarca*; or else is discharg'd into the Cavities of the Abdomen, and then we call it an *Ascites*. In both these Cases, by drinking *Bath-Waters*, Purging now-and-then, with good Stomachicks, Antiscorbuticks, Diureticks, and Bathing between-whiles, very great Cures have been performed. By them the Blood is cool'd, and its much weakened Tone restor'd.

restor'd. By their diuretick Quality the Kidneys perform their Office, in plentifully separating of Urine; and the Stomach recovers its Digestion, and the Chyle is assimilated into Blood. What I say here of Dropsies, is true of Cachexies, or ill Habits of Body, from a viscous cold Phlegm; which being much from the same Cause, and often the Occasion of Dropsies, the same Method may serve both with varying it, as Symptoms require.

7. In the Jaundice. This Disease, I take it, proceeds rather from a too viscid, depress'd, and almost vapid Blood, than from any Defect of the Liver; the Obstructions in those Parts at this time, are rather the Effects, than the Cause of this Distemper. But let the Cause be what it will, the Bile is certainly, in this Case, very thick and dull, not fit for the Uses Nature designed it. In this Case the Patient grows very costive, because

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the Bile, depriv'd of its Salts, cannot irritate the Intestines to protrude their *Fæces*, and cause Stools: The Urine also is very high colour'd, because saturated with the Bile, which us'd to be separated from the Blood by the Liver, the Skin is dy'd yellow, from the same Defect. Hence Want of Appetite, frequent Faintings, Heats, and Colicks. In such Circumstances nothing is more proper than *Bath-Waters*; whose cleansing, opening, dissolving, diuretick, and strengthening Qualities, are admirably well adapted to the Cure of all the Symptoms mention'd; purging now-and-then the Body very gently.

8. In the Scurvy. This Word has a very large Acceptation, and is often taken for any ill Habit of Body, or chronick Distemper. But I shall confine myself at present to the too saline State of the Blood, whether acid, acrious, or corrosive. In this case the Patient has frequent Pains all over;

over; the saline Particles of the Blood being thrown off upon the nervous Parts, prick and vellicate them, and cause these Pains, Spots, and Eruptions in the Skin: The Gums, being a tender Flesh, are eaten away, so as to leave the Teeth almost bare and loose. The Urine is very high-colour'd, because impregnated with too much Salts that are discharg'd from the Blood. Now the Bath-Waters drunk for a considerable time, by washing off the Salts from the Stomach, Liver, and Intestines, the *Fomes* or primary Cause of this Disease, together with a regular Diet, moderate Exercise, and proper Medicines, cause very great Alterations in such Constitutions, by sweetening the Blood, and all the Juices in our Bodies, and rendering them fit for Nourishment.

9. Loss of Appetite. Let the Cause be from a weak or impoverish'd Blood, from an acute or long chronick Disease, by which the natural Dissolvent

or *Menstruum* in the Stomach is deprav'd, or by any viscous, sour, or sharp Juices, it be so vitiated as not to affect the inner Coat of the Stomach with that pleasing Pain called Hunger, its esurine Quality being lost: In this case nothing in Nature is more proper than *Bath-Water*, which by its dissolving, cleansing, absterfive Virtues, and partly by the esurine Salt which it has in it, restores Nature almost miraculously, when all other Things fail. This may happen also from a Relaxation of the Coats of the Stomach, in which these Waters are of Use too, by invigorating the Blood, and rendering the animal Spirits more active, and restoring it to its proper Tone. Thus *Bath-Waters*, having these good Qualities in them relating to the Stomach, stop Vomitings, cure all Heart-burnings; whether from an acid or a bilious Cause, Indigestion, Pain in the Stomach, or any other chronick Indisposition of that Part.

10. They likewise remove all Sorts of cutaneous Diseases, as Itch, Scab, and Leprosy, by washing off those malignant Salts, that occasion this Malady, when taken inwardly, and discharging them by Sweat in Bathing; the sulphurous Particles too in the Water entering into the Skin, and dissolving the Salts which were lodg'd near the Surface. And I am of Opinion, if any fail of Relief in any of these Cases by these Waters, 'tis because they allow not Time enough for their Cure; or else are too lazy, and loth to take Pains, or cannot keep to such a regular Diet, as is absolutely necessary in such stubborn Cases. And what I here observe, concerning the Leprosy, &c. I must apply to the King's-Evil, which requires as long Use of the *Bath-Waters*, as any of the Cases last-mention'd do; without which, and a regular Diet, 'tis in vain to expect much Relief in that stubborn Disease.

11. In Gravel and Stone in the Kidneys. This proceeds from the grosser Parts of the Blood, obstructed in the narrow Pipes in the Reins, through which the Urine is separated, which in time becomes either Gravel or Stone: So that these Waters, by their thinner and humid Particles, are proper to dilute the Blood coagulated in the Kidneys, as Diuretick, to open the obstructed Tubes, where this Matter is deposited, and by its sulphurous and balsamick Parts, to soften the Fibres of these Tubes, and render them more slippery, and to dispose them to discharge the Gravel or Stone, if not too large, through the Ureters into the Bladder, in order to be carried off by Urine.

12. In Vapours. Tho' generally apply'd to Women, yet 'tis a Distemper incident to both Sexes, from a Weakness in the whole nervous System, and a Disorder in the animal Spirits.

Spirits. Now tho' I cannot say, I have seen any in this Distemper perfectly cur'd, yet I have known a great many of both Sexes, with a few nervous Medicines, join'd with the Waters, much reliev'd, and mightily mended in their Constitutions. To these I might add many other Diseases, not spoken to particularly before, tho' included under some of the Heads mention'd, and curable by the *Bath-Waters*: As Coldness, and Pain in the Head, Epilepsies, most Diseases of the Eyes; *Bath-Water*, warm from the Pump, being one of the best Washes in the World for the Eyes and Eye-lids in many Cases; Deafness and Noise in the Ears, Running of the Ears, Palpitation of the Heart, Sharpness of Urine, Wounds and Ulcers externally and internally, Piles, Numbness in any Part. It would be too tedious at present, to enumerate all the Diseases curable by *Bath-Waters*, in-

ternally taken, or externally us'd. I am very well satisfy'd I might have brought in any chronical Distemper that is curable. I have singled out these few only, as the most remarkable, and most frequent to be met with at *Bath*. Now if the *Bath*-Waters are so very proper a Medicine, in the capital Cases I have mention'd, where Nature is so very much oppress'd; how rational it is to conceive, in Cases where she is less griev'd, that they must succeed better! I have known a great many come to *Bath*, tir'd with Shop-Medicines, to no manner of Purpose at all, that have drank these Waters with abundance of Delight and Pleasure; and by the Help of a little Physick, have succeeded to Admiration. They are not only the pleasantest Vehicle for such Medicines as are proper in any chronical or lingering Distemper, but more useful in any of the Cases mention'd, than any of the most artificial Diet-

Diet-drinks out of the Apothecary's Shop; no Composition known being so universally good in so many Constitutions. I am not ignorant the Patient's Disgust of Physick-doses is little minded in the Cure of Diseases by many; though I can't help being of Opinion, more Cures would be done by Professors of the *Medick* Art than are, were there as much Regard had to the Palatableness of the Medicine, as to its imaginary Virtues, where it may be done.

13. The ill Habits of Body that succeed long, lingering, and malignant Agues, &c. and the Reliques of the Jesuit's Bark; such as Dropsies, Jaundice, &c. do from *Bath-Waters* likewise find great Relief.

whole Voyage to the other World.
This made old Democratic laugh, and
Hercules cry, when they saw and ob-

serv'd, not only the Millicies, but the

C H A P. IX.

Of the Diseases of Women.
View of Nature, we find our whole
Pursuit of Things. Upon a general

Diseases of the Body, and Disorders
of the Mind, are the natural
Calamities that attend Mankind; no-
body is ever quite free from them; and
he is only the happiest, that meets
with the least Share of them in this
World. The good Things of this
Life we too often lose the Benefit of,
because we know not how to make a
right Use of them; and, like Chil-
dren, are fond of such Things many
times, as would hurt us, if we had
them. Thus being little else but the
Disport of Nature, we come into this
World for our Ease, and are seldom
easy til we are out of it, thro' our
whole

whole Voyage to the other World. This made old *Democritus* laugh, and *Heracitus* cry, when they saw and observ'd, not only the Miseries, but the Follies of Mankind, so eager in the Pursuit of Trifles. Upon a general View of Nature, we find our whole Species subject to many Miseries; but it must be allow'd, the Fair Sex are much more liable to natural Infirmities and Diseases, than the other. They are of a much finer Composition and tenderer Constitution than Men; whose Nerves are more tense, and their original Frame and make much more robust and strong. Besides, they are not only liable to all the Diseases Men are, as they have both one common Nature; but by reason of those Parts Nature has design'd for the Organs of Generation, they are subject to many more. As such (tho' the most perfect of the Creation in all other respects), they can't be said to be so hap-

108 *Of the Diseases of Women.*

py as Men; and ought to be look'd on, not only as the Subject of our Pity, but also of our utmost Care to make them easy.

Now in all Diseases where the Womb is affected, these Waters are of very great Benefit; and internally or externally us'd, are very often of prodigious Advantage to the Fair Sex; and are preferable to any Course of Physick, Art can contrive; if assisted a little, as there may be occasion. I shall begin in the first place with the Maiden Disease.

1. The Green-Sickness. This happens to Women about the Age of Fourteen, from an acid, viscid, phlegmatick, and effete Blood, having few or no active Spirits in it, for want of its due Fermentation. Hence come Obstructions in the Womb, and a Stoppage of the Courses. Sometimes the capillary Vessels not emptying themselves into the Womb, the confin'd

Blood

Blood loses its own proper Crasis, and by degrees brings on this particular Species of Cachexy; which seldom fails of a Cure from these Waters, assisted by gentle Purges, Aperients, and Stomachicks. By their diluting, attenuating, strengthening, and invigorating Nature, they divide the viscid Particles of the Blood, attenuate the whole Mass, volatilize and rouse the intestine Motion of its Parts, quicken the Circulation thro' the small Vessels, open Obstructions of the Womb, and promote its regular Evacuations and Discharges.

Under this Head I shall mention a Species of this Distemper, which happens now-and-then to young Girls, between nine and fourteen; in which the Patient has a Desire to eat Chalk, Oatmeal, Lime, Earth, and such-like Absurdities, from a vitiated acid Ferment in the Stomach; which depraves the Fancy, and makes them long after such Trash. This may be called *Pica Vir-*

110 *Of the Diseases of Women.*

Virginum, being much the same with that which sometimes afflicts Women with Child; in which Case the Waters of *Bath* may, both inwardly and outwardly, be of Use.

2. Uterine Fluors, white and red. The first is occasion'd by a Weakness in the Glands of the Womb, from whence issues a white phlegmatick Matter; which is very troublesome to the Patients, and weakens them very much, if it continues long upon them. The Matter sometimes changes its Colour to green, yellow, and dirty; and from a Mixture of Salts with it, it is often sharp enough to corrode the Parts, and ulcerate them.

The second, viz. the Reds, which happen to Women for the most part, that have had many Labours, or frequent Miscarriages, by which means the capillary Blood-vessels of the Womb are so weakened, they cannot contain the Blood its full Time. This is a severe Affliction to Women between the Age

Age of 40 and 50; for I mean only that in this Place, and not what relates to younger Persons, from the Briskness of their Blood. Now both the Whites, and this Sort of Reds too, require almost one and the same Cure: And *Bath-Waters*, with a very little Help, are almost Specificks in these two Cases; and rarely fail, if rightly manag'd, and the Womb is not grown scirrhus.

3. Barrenness, the Causes of which usually proceed from a cold and moist Womb, which renders it too weak for Conception. I need not enlarge on this Head, it being so well known to every Body, that a great many Women who come to *Bath* for the common Cause, have become fruitful from the Use of these Waters; to the no small Joy of many Families, that almost despaired of Children before. This the Waters perform by warming, strengthening, cherishing, cleansing the Womb, and discharging the
moist

112 *Of the Diseases of Women.*

moist and viscous Particles; that render'd it incapable to perform its Office of Conception.

Miscarriages are oftentimes to be accounted for after the same Manner; being almost, I think, from the same Cause, and so require much the same Method of Cure.

Upon the Whole, nothing is so kind a Course of Physick to the Female Sex in these Cases mention'd, which are peculiar to Women, as Bathing, and drinking *Bath-Waters*. 'Tis an easy Method, and more adapted to their soft and tender Natures, than any artful Compositions whatsoever, by cherishing, warming, and drying their too cold and moist Constitutions.

To these give me Leave to add, by way of Appendix to this Chapter, Childrens Diseases; such as Crookedness, Rickets, Weakness in their Limbs, Big Bellies, Contractions. Now Children that are so very averse to Physick, which is often not so proper for their

too tender Natures or Constitutions; many of which we daily see brought hither so weak from the Relaxation of their Limbs, that they appear to be in Danger of being Cripples as long as they live, restor'd to Strength and Vigour by moderate warm Bathing. Whoever desires farther Satisfaction concerning the Virtues of the *Bath-Waters*, both by Bathing and Drinking, may consult *Dr. Pierce's Memoirs of Bath-Waters* (a very useful Treatise on that Subject), who has taken Pains to collect, and set down, many Cases and Cures, which he had observ'd in his time.

CHAP.

C H A P. X.

Some QUESTIONS stated and answer'd.

Quest. 1. *Whether these Waters are good in the Pox?*

Ans. Authors generally agree in this, That the Cause of this Disease is some malignant, corrosive, and contagious Ferment, which by degrees taints all the Humour of the infected Body. Whether it had its Original at *Naples*, or (which seems most probab'le) was brought home from the *West-Indies* by some of *Columbus's* Soldiers, among the rest of the Commodities of that Country; or whether new Diseases may happen, from some unknown Qualities in the Air, not observ'd before; I pass over,

over, as little to my present Question. Most Authors that have written of hot Waters, have argued this Point, who for the most part will hardly allow of either Bathing or Drinking them in this Case. *J. Baubinus* * forbids their being drank in this Case, because of their Humidity; this Disease requiring all drying Medicines. But Dr. *Guidot* has, in a few Words, answer'd all the Scruples upon that account, about the Drinking-part, when he says, They operate not only as Purging, Diuretick, Sudorifick, and sometimes by Salivation too, but as great Alteratives: And then concludes, and I think very justly too, That as such, they must be of Use in this Distemper.

As to Bathing, nobody hardly attempted it. *Baccius* † will not consent to Bathing in the Pox, because of

* Font. Bollenf. p. 289.

† De-Thermis, lib. 3. c. 5.

the Heat of the Waters. *Fallopious* * tells us, he had seen several cur'd by drinking; but then adds these Words immediately after, *Non utatur tamen qui Gallico laborat, Aquis bis medicatis per Infectionem*; which forbid Bathing altogether in this Case. Dr. *Guidot* does very faintly allow it, but says nothing to recommend it. Now, with Submission to such grave Authorities, I see no just Reason to fear the Use of these Waters, either externally or internally, in Patients thus affected. For if this Distemper proceeds from very corrosive and vitious Humours, why may not these Waters, which are so great an Alterative, soften their ferine Nature, especially if assisted with proper specifick Medicines? And after due Preparations made, the Blood-vessels emptied, the Humours in part evacuated, and the Fever prevented, Bathing, by dissolving and dispersing

* De Thermis, c. 11.

the Humour, and drying and consolidating all the Parts which had been hurt, may likewise be of Service. *Ʒ.* *Rhodius* * tells us, that he saw an inveterate pocky Head-ach cur'd in fourteen Days, *Stillicidiis Aquæ calentis sulphuræ*, only by dropping hot Bath-Waters on the Part. And Monsieur *Aubery*, in his Treatise of the Baths of *Bourbon*, assures us, he saw a *Swiss* cur'd of the Pox, by sitting three Days together in the hot Bath at *Vichy*. For my part, I have seen both Drinking and Bathing in the *Bath-Waters*, with proper Mercurials, more than once in this Distemper succeed to Admiration; and never would desire a better Vehicle, or Diet-drink, for the proper Medicines in this Case, or easier and pleasanter Assistance than I have had from these Waters, externally and internally used in this Distemper; and shall make no

* Cent. 1. Observat. 75.

Scruple to say with Dr. Fouet * upon this Case, *Son mal sera incurable, s'il ne cede à la Boisson, & aux Bains de ces Eaux*. If they cannot be cur'd by Drinking and Bathing here, they will never be cured any where.

As for a virulent *Gonorrhœa*, I shall not pretend to give the World any Experiments I have ever made, that may recommend the Use of these Waters in that Misfortune. *Bath-Waters*, I take it, are of too hot and searching a Nature to be used in a Case which is accompany'd for the most part with an Inflammation; and is never better cured than by cooling Drinks, the gentlest easiest Purgers, and a proper Injection †.

Quest. 2. *Whether Bath-Waters are good in the Gout?*

Ans. Dr. Aubery ‡ recommends *Bourbon* hot Waters, after some ge-

* Bains de Vichy, p. 27.

† Vid. former Edition of this Treatise.

‡ Bains de Bourbon, p. 212.

neral Evacuations, and between the Fits; for he says, it does not only dissolve the Remainder of the gouty Matter, but also dries and fortifies the Joints; and at the same time advises the Use of them upon the Place, and that for a considerable Time together; it being necessary, in so stubborn a Case as the Gout is, to persevere a long time in the Use of the Waters. Mr. Long was a Demonstration of this; for he drank and bathed for several Years together, and found great Benefit by both of them. It is most certain, that the *Bourbon* Waters are of great Use to old Persons who labour under an habitual Gout; but they are to be used with Caution in young and sanguine Constitutions. Dr. Sydenham supposes the Gout to arise from Indigestion, and a Weakness in the Stomach; and yet he is afraid of such Medicines as warm it, lest they should be too hot for the Blood; so advises a strict Diet, and Exercise, unless when
the

the Stomach and Intestines are affected, and Nature is not able to throw it out upon the extreme Parts: In that Case he allows of warm Medicines. 'Tis upon this account also, that *Liberatus* *, a learned and ingenious *Italian*, in his Treatise of the Gout, advises drinking hot sulphurous Waters in this very Case.

Every Body knows, that some Constitutions are very nice, where the Stomach is naturally weak or cold, and the Blood warm: In this Case the Waters may be of Use to strengthen the Tone of the Stomach, cleanse it, wash off the peccant Salts by Urine, and procure a better Digestion, without heating the Blood at all, their Heat being spent upon the cold Parts of the Stomach, before it can arrive at the Blood. *Sic enim contrariis medebitur Intemperantiis absque Partium ex opposito laborantium Læsione & Fastidio,*

* De Podagra Politica, p. 196.

as the same Author has it. For this Reason I have known many drink these Waters with good Success, especially in the habitual Gout. 'Tis certainly a most stubborn Distemper, that has baffled all the Professors of Physick that have appeared in the World. The Cause lies too deep for any Method or Medicine yet known, to come at the Bottom of it. *Hippocrates*, in his Tract *De Veteri Medicinâ*, says, That we have in our Bodies sweet and sour, sharp, bitter, insipid, and infinite more Particles, that cause no Disturbance at all in us, whilst intimately mix'd and temper'd all together; and are only hurtful when any of them grow too numerous, and are separated from the Mass. These different Particles in our Blood are, I take it, the Seeds or Seminaries of that vast Variety of Distempers that afflict Mankind. Thus the gouty or constituent Particles of the Gout may remain in us some Years, and circulate with the rest of our Fluids without any

G

Pain

Pain or Disorder, till they grow too numerous, croud together, and, assisted by the nitrous Air, and celestial Influences, disturb the natural Mixture of the Blood so, that Nature is forc'd to exert herself, and cast off those loose and vitiated Particles into the Interstices of the Joints, by the Glands, designed by Nature for that Purpose, to prevent Fevers and Disorders that otherwise would fall upon the whole Mass, as Dr. *Havers* has learnedly and ingenuously express'd it in his *Osteology*, or Treatise of the Bones. And the same Author tells us, this peccant Humour thrown off thus, with the mucilaginous Juice that serves to moisten the Joints, and render them the fitter for Motion, is sometimes saline and pungent, sometimes acrious and urent, and most frequently an acid, or, in a Manner, corrosive Salt; and that it is discharg'd from the Blood by way of a Crisis, which, pricking the Membranes there, is the Cause of that
exquisite

exquisite Pain that is almost intolerable in those Parts. He supposes also that the Paroxysms of the Gout are longer or shorter, as either of these may be the Cause: And concludes, I think very rationally, where the greater Coagulation or Viscidity is in the vitiated Mucilage, the greater is the Acid that caused it; and by this predominant Acid the longest Fits are produced, while the shorter are owing to the saline or acrious. Hence it is that Bitters and Ecphractics, and comfortable warm Medicines, are always of Use in the habitual or chronical Gout, and long Fits. Now Acids internally taken must increase the peccant Humour, irritate the Blood more and more, cause a greater Coagulation in the Joints, weaken the Habit of the Body, and, if pursued, cripple the Patient early, as too many, to my Knowledge, have experienc'd, that have ventur'd on that bold and groundless Practice. We generally look on the Gout as a healthy

G 2 Disease,

Disease, because, as a Sink or Common-sewer, it carries away such Particles by a critical Discharge, as were burdensome to Nature; by which the whole Mass of Blood is purged and sweeten'd, and other Diseases prevented: Provided the Fits come not too often, and the Constitution be not too much fatigu'd and broken by the Distemper. 'Tis very observable, that seldom any Body has it very severely, that has felt nothing of it till past Fifty; and then it is an Argument of Vigour and Strength, and we commonly wish such Joy, as it prognosticates long Life; which for the most part proves true. Dr. *Havers* before-mentioned supposes the vitiated mucilaginous Juice, causing the Gout, is generated by the Spleen, and from thence convey'd to the Blood: And the Antients believ'd the same *Viscus* was the Seat of hypochondriack Melancholy. Now if we should consider the Nature of these two Distempers, and how they are often transmuted
one

one into the other, both these Hypotheses may be true: For I have known several Instances, where the hypochondriack Fits have, by good Management, gone quite off by the critical Paroxysms of the Gout, and *vice versa*, the Gout turns to the Hypo. A Gentleman told me at *Bath*, not long since, that fearing he should be as gouty as his Father, who was so to a very great Degree, he got himself let Blood very frequently, and plentifully, upon his first Apprehensions of it; and so shifting his Gout, became one of the most hypochondriack Persons I ever saw in all my Life. But I must not forget, I am not writing a Treatise of the Gout; so shall refer my Reader to Dr. Sydenham's Tract on that Disease, if he desires any further Satisfaction on this Subject.

Quest. 3. *Whether we sweat in the Bath under Water?*

Ans. I was once ask'd by a Doctor

of Physick in the Cross-Bath, Whether ever I had made any Tryals, by which we might come to any Certainty, what we lost in Weight by Bathing? I told him, No; because I was of Opinion, there was so much Nicety requir'd in such an Experiment, that I could not see how it could be try'd anywhere but in the *Bath* itself, by some hydrostatick Engine, contriv'd to weigh our Bodies there: For out of the Bath I thought it was altogether impossible to be so exact as was requisite to make such an Experiment satisfactory. Besides, I told him I judg'd it hardly worth while to try, because I did not see how any Part of our Bodies that are under Water, could sweat under so great a Weight. Upon which the Doctor ask'd me, How the *Bath*-Guides then came to be so thirsty in the time of Bathing? To which I answer'd, I thought the Reason of that was very obvious, and proceeded from their being a great while in the Slip, where they

they are almost out of the Water, and very liable to greater Sweats than when the Weight of the Water was upon them: That they were also much exposed while in the Bath, by wearing no Waistcoats that stick close to them, nor keeping their Bodies under Water, as the Gentlemen do when they bathe. And here our Philosophical Conference ended.

Give me leave to prosecute this Argument a little farther, which I shall endeavour to make probable from Authority and Reason. Dr. *Blondel* * in his Description of the Baths of *Aken* in Germany, says, *In Balneo Corpus circumquaque ambitur, ut non datur Difflationi Locus.* And *Aristotle* † in his Problems, *Membra Aquæ calidæ immersa non sudant, etiamsi ex se ipsa recalescunt.* I know the learned *Sanc-*

* Descript. Aquar. Aquisgran.

† Sect. 2. c. 42.

torius says *, *Lavacra ætæ calida juvant Perspirationem* ; Perspiration may be increased by the warm Bath : Which, I conceive, does not contradict the Notion at all, that our Bodies do not sweat under Water, there being a very great Difference between Sweat and Perspiration, as *Dr. Cole* has very learnedly made out in his Treatise *De insensibili Perspiratione*, p. 74, 75. Perspiration then may continue in the Bath, and be somewhat greater too, because the Particles which fly off are very fine, and their Force may be increas'd by the Warmth of the circumambient Water, and the greater Velocity of the Blood's Motion at that time : Whereas at the same time the Pressure of the Water on the Surface of our Body may, in all Probability, be great enough to shut the cutaneous Glands, and so prevent their Evacuation

* Sect. 2. Aph. 2.

by Sweat. *Vid. Bellini de Sang. Mission. Propos. 8.* By Experience we know very well, that Men not us'd to bathe in hot Water continue in the King's Bath, the hottest of all, two or three Hours together, with little Thirst all the time, and sweat very plentifully afterwards in their Bed.

'Tis not therefore probable, that People could bear so great an Evacuation, as general Sweating would be, so long together, with so little insensible Alteration, especially if we consider how in the Bagnio, when nothing hinders, and our Bodies are free, where we sweat plentifully, we grow very thirsty, and soon faint, by reason of the Expence we are at by sweating: So that in about half an Hour we are forced to quit the hot Room for a cold one, in order, by degrees, to cool again. I am of Opinion farther, which I humbly submit to the Learned, that 'tis impossible to come to any certain and positive Decision of

this Matter, unless we can be sure, that no Parts of the *Bath-Waters*, while we bathe, insinuate themselves through our Skin and Vessels, into our Blood. And till we are certain what Quantity is thus imbibed, I cannot see how we can conclude any thing about our Sweating and Perspiration in the Bath.

Bellin. Sang. Miss. p. 151. thinks it very plain, that in Bathing the Waters do not only penetrate the Skin, but that they enter deeper into the very Blood. So that the solid Parts are not only soften'd, but the Blood is also diluted, cool'd, and attenuated, and its Circulation and Perspiration thereby promoted. The divine *Hippocrates* affirms, That our Bodies are inspirable as well as expirable: when he says, Ἐκπνοον καὶ εἰσπνοον ὅλον τὸ σῶμα. And *Galen*, in his Comment upon these Words of the old Gentleman, says, 'Tis probable he meant, that the Arteries in the Habit of our Bodies receiv'd in Air, which by them was convey'd

convey'd to all Parts of our Bodies. *Cæsar Zazotta*, a Man of admirable fine Learning, in his *Medica Martialis*, has his Expression, *Alterat vero Balneum, quatenus refrigerans est, intemperiem emendando, sitim tollendo per corporis meatus intra assumptâ aquâ* *. These Authorities and Experiences put together, make my Arguments more plausible: And for this Reason I have ventur'd to say, in my Description of the several Baths in *Bath*, that the Cross-Bath is preferable to the Queen's-Bath, tho' near of one Heat; because the Cross-Bath hath Springs of its own, and its proper native Spirit is of more Use to us in Bathing, if it penetrates into our Blood, as was prov'd before it does, than that which has no Springs of its own, but is deriv'd from another, and brings with it all the Filth, occasion'd by such as bathe there.

* *Vid. Sanctior. Sect. 1. Aph. 133.*

If this Doctrine be not allowed, that Waters may penetrate thus, I would fain know, what Good may be expected from emollient Fomentation, Ointments, bitter Cataplasms to kill the Worms, artificial Broths of several kinds, Relaxers, Comforters, and Strengtheners, Epithemata, Moisteners, or Anodynes, or Things applied to the Region of the Kidneys, Liver, Spleen, Navel, &c. Or what will it signify, whether the Baths are made of Oil, Milk, or Waters, if nothing but the Heat is to be consider'd? And how comes a Bath of Wine to exhilarate and refresh our Spirits, more than one of common Water?

Abisbai, I am persuaded, kept *David* alive, not only by the bare natural Warmth of her Body, but also by the Moisture and Nourishment he received at the Pores of his Body from hers; which cherish'd and refresh'd him. And this I take was the Case of a worthy Patriot of our own Country,

try, who, I am very well assured, above thirty Years ago, was reduc'd to so low a Condition, and so very weak, that he abhorr'd even Kitchen-Physick; and yet was restor'd by a couple of buxom Girls out of the Country, laid warm to his Sides in Bed. He was alive not long since, and hearty for his Age, being about Ninety Years old when he died. *Magni refert quibus cum dormieris.*

All which I think sufficient to prove, that our Bodies may be as well inspirable as expirable; that is, there is a Magnetism in our Bodies: And if so, 'tis probable we may receive such Quantities of the Bath-Waters into our Bodies, by the Pores, when we bathe, as may be greater than what we lose by Perspiration, and the Sweat of those Parts which are above Water; or, at least, it may be enough to puzzle any over-nice Inquirer into the Matter to adjust the

Dis-

Difference. This puts me in mind of a Story I had from a Jockey, who had rid many a Race; that he was kept waking and fasting some time before he rid, in order to waste his Body, and bring him down to so many Stone only as was agreed on. After the Race was over, going into Bed, he was weigh'd, had a Porringer of Broth given him, and slept twelve or fourteen Hours together; and then being weigh'd again, he found, by sleeping only, and a Pint of Broth, he had gain'd in that time seven Pound. *Est in Aere occultus vitæ Cibus*, says *Cosmopolita*; That in the Air there is an occult sort of Nourishment, that may support Life. And this I think solves the Phenomenon of Abstinents, who neither eat nor drink for some Months, and yet are not much wasted. When the internal Spring is weak and low, and the Humours move but languidly from the Centre to the Circumference, the Excreta
may

may be in very small Quantities, while the absorbent Vessels near the Surface of the Body suck in a large Supply for its Support and Nourishment.

CHAPTER

When the internal Spring is weak and low, and the Humours move but languidly from the Centre to the Circumference, the Excreta may

C H A P. XI.

Of the ANTIQUITY of Bath.

I Think it very probable, that the *Romans* first built the Town for the sake of the Waters they found there. I cannot allow the Honour of it, as some do, to *Julius Cæsar*, whose Conquests in *England* hardly extended beyond these Counties we now call the Home-Circuit. 'Twas usual among the *Romans*, where-ever their Conquests extended, to introduce their Customs, Laws, and Manner of Living: Now Bathing being one of their chief Exercises, 'tis not unlikely they might bring in this among the rest. The Stories we have of *Bladud* the Necromancer, said to be cotemporary with

with *Elias*, as the first Founder of these Hot Springs, by whose Art, as a profound Philosopher and Magician, they were produc'd, are as mere a Fable and Romance, as that he also broke his Neck, presuming to fly from *Apollo's* Temple (now *Paul's*) with artificial Wings, and Spells of his own Contrivance. Nor is it to be suppos'd, that the *Britains*, before *Julius Cæsar's* time, were polite enough for such Exercises, or artful Contrivances under-Ground; especially if it be true what *Strabo* * says of them, who wrote about the Time of our Saviour; That they lived wild in the Woods, with their Cattle; and tho' they had a great deal of Milk, they had not Sense enough to make a Cheese. Now that which seems to favour the Conjecture, that the *Romans* first built this Town, is, That there is a great deal of Artifice in the Foundation of it; and the

* Lib. 4.

138 Of the Antiquity of Bath.

Romans, being very great Masters of Architecture, as is well known, were much more capable of such Contrivances, than I fear the old Britains were, at the time this Town was first built. And this is more probable, if it be true what Solinus said of the *Fontes Calidi* in Britain, which the Learned conclude to be the same with the *Thermæ* in Ptolemy's Tables, who wrote before him, That they were *opiparo exculpti Apparatu ad Usus Mortalium*; that they were handsomely contriv'd for common Use.

'Tis observable, the Town stands upon a Bog, the Ground is all made, and the Earth seems as if it were girded and kept in by the Walls; which in some Places, particularly near the Walks, is twenty Foot higher than the Land without the Walls; which makes the Wall give way, and in some Places look as if it would burst: Which is an Argument it is artificial, not natural Ground. And I am very
much

much inclin'd to think, the Romans (who were very famous for their Aqueducts under Ground, according to *Vitruvius* *, who liv'd in *Augustus's* time) have by some Contrivance of that kind, secur'd the main Spring, which preserves the Waters pure from any Mixtures with other cold Springs; which are frequent all over the Town, and would soon spoil those Waters, if they communicated with them. That it is a Bog, Dr. *Guidot* assures us; for, digging not long since, he says, they came to mere Mud, and run a Soldier's Pike into it of a great Length, without finding any Bottom, but a warm, marshy, sulphurous Mud sticking to the Pike. Now there are several cold Springs in this Town, most of which are brackish, and will not lather: But one I know at Mr. *Cornish's* in the Grove, so soft and plea-

* *Ductus autem aquæ sunt generibus tribus, rivis, per canales structiles, aut fistulis plumbeis, seu tabulis fictilibus, lib. 8. c. 8.*

fant, that it lathers well, and serves for all the Uses of the House. Now if the hot Springs had not been secur'd by some extraordinary Artifices from the cold ones, I am afraid they had hardly been preserv'd unmix'd so long. 'Tis very remarkable, that, notwithstanding the many Fates and Revolutions *Bath* has met with in the many *Saxon Wars*; yet some of the *Roman Stones* have remain'd in the Walls, with *Roman Figures*, and *Latin Inscriptions*, very visible and legible at this time.

To trace the Original of these Waters, and the first Time of their Use, is not now possible. Very well we know, *Ptolemy*, *Antoninus*, and *Solinus*, are the first Authors who have mentioned these Waters; who all liv'd about 14 or 1500 Years ago. And nothing is more certain, than the Uncertainty of the Time they had been in Use, before these Authors wrote.

That

That *Ptolemy* meant *Bath* by the ὕδατα θερμά, in his Second Book, and Third Chapter, is probable; because, speaking of *Britain*, he places it in 53 Degrees and 40 Minutes Latitude, not far from *Ilchester*, which he calls *Is-calis*.

Antoninus, in his *Itinerary*, tells us, *Aqua Solis* lies in the Way from *Bristol* to *Warminster*, from whence it is distant about sixteen Miles: Which argues, that they meant both the same Place. And no doubt, but by the *Fontes Calidi*, in *Solinus* *, is meant also *Bath*, there being no Hot Waters in *England* besides.

These are the first Names I find upon Record of *Bath*, among the Antients: By the *Britains*, afterwards, and the *Welsh*, it had several Names; sometimes they called it, as Mr. *Camden* observes, *Caer Ennaint*, the City of Ointment; then *Caer Badon*, after-

* Polyhist. c. 22.

142 *Of the Antiquity of Bath.*

wards *Caer Palluddur*, because of *Minerva's* Temple there, who was the Patroness of Hot Waters: By the *Saxons* after them, *Bathancester*, *Hat Bathan Achmanchester*, or the City of sick Folks: And now, lastly, by the *English*, called *Bath*, or *Bathe*.

C H A P.

591

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there are other Considerations to be weighed, before we come to a final Decision of this Matter; for 'tis not always the healthiest Situation, where the Air is most free and unconfined. It may bring with it some Particles raised at a Distance from us, according to the Nature of the Soil it passes over, that may be hurtful to our Constitutions, prey upon our Humours, and cause Diseases in our Bodies. Now nothing is a more likely Cause of Pestilences, or epidemical Diseases, than the Air being now-and-then impregnated with noxious Vapours, from some mineral Effluvia rising out of the Earth. The Honourable Mr. Boyle * is of this Opinion, when he tells us, That he thinks 'tis probable, that in divers Places the Salubrity or Insalubrity of the Air, consider'd in general, may be in a good Part due to subterranean Expirations. If this be true, why may not the Air, in some Places,

* *Salubrity or Insalubrity of the Air*, p. 4.

abound with Particles from mineral Effluvia, that may be of a benign Nature, and prolong Life? I am very inclinable to believe, that That Earth that can impregnate Waters with such balsamick, healing, and agreeable Ingredients as these hot Waters are saturated with, may also send up into the Air such benign Effluvia, or Exhalations, as may have a kind Influence upon our Constitutions, and be the Cause of Health. And if it be true what Mr. Boyle says in the same Book, That subterranean Effluvia contribute to endemial Diseases, not only as they vitiate the Air we breathe in, or are immediately touch'd by; but as they impregnate or deprave the Aliments Men feed on; as Water, Trees, Herbage, and Flesh; why may not some Places, by the Kindness of their Soil, or mineral Substances in the Bowels of the Earth, impregnate our Aliments with such balsamick Particles as may render them more wholesome,

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some, and of better Nourishment? But this being an Argument *à priori*, I shall insist no more on it, but as a bare Probability; there being a better Argument for it *à posteriori*, which I lay a greater Stress upon; *viz.* That I have beheld more old healthy People in the City, and the neighbouring Villages in the Bottoms near *Bath*, than I have ever heard of any-where else. Besides, 'tis well worth our Observation to inquire, how few die every Year of those that come to *Bath*, many of whom are almost dead when they arrive: As also, how few Accidents we hear of among such Numbers and Crouds of People, from all sorts of Airs and Countries: How mild all epidemical Diseases are, when they happen in that Town, as Small-Pox, Fevers, and the like; very few dying in them: And I fancy, when any one has fully consider'd these Things, he will be apt to think it reasonable, with me, to attribute it, in part, that the Place

Place is so healthy, to the benign and balsamick Emanations, or Effluvia, which from the Bowels of the Earth stream through the Air, and so are communicated to our Blood, and are the Cause of Health and long Life; and not, that all these kind Qualities are treasured up in the hot Waters only. Upon the Whole, Bath is the *Asylum Chronicorum Morborum*, the common Sanctuary for all Persons that labour under any chronick Distempers; where Scurvies, Cachexies, and all other lingering Diseases, may be cured, *citò, tuto, & jucundè*, by a Composition Nature has contrived, for the Benefit of Mankind; which exceeds all the Mixtures and Compounds Man has, or can invent. Compound Medicines, consisting of Particles heterogeneous, are not so adapted to the Constitutions of Mankind, as this Divine Composition, whose almost homogeneous Nature, by an admirable Contrivance of Providence, fits it

148 *Of the City of Bath, &c.*

almost for all Ages, Sexes, and Temperaments, by its never enough to be admired ~~balsamick~~ Virtues, Nature's best Restorative; by recruiting our radical Moisture, when spent and consumed; and preserving the vital Flame, and native Heat, when it begins to be languid and faint; restoring us to Health, or at least prolonging a very tolerable Life.

CHAP.

CHAP. XII.

A Description of the several BATHS
in Bath.

IN this City are Three principal Baths, which, tho' not comparable in Magnificence to the Baths at *Rome*, which were much larger, and adorned with many marble Pillars, and curious Workmanship of Silver and Gold, studded with great Variety of precious Stones, which gave them a charming Lustre; yet are built very convenient, kept clean, and in good Order.

1. *The King's-Bath.* This is the largest Spring and hottest Bath of all, which, upon the Turn of a Cock, the Guides can make hotter, upon Occa-

sion; and sometimes I have known it too hot to be endured. In the middle of this Bath, under the Cross, about two Foot under-ground, is a Cistern of Lead, with its Mouth downward, in Length about six Foot, and five Foot broad, and round about it large Stones, between which the Water rises and bubbles up into the Bath, and fills it. Through this Cistern, by Pipes of Lead, are the Waters convey'd to both the Pumps, for drinking. This Bath is about Fifty-seven Foot long, and Forty broad. It has several Niches round it, with Seats for the Bathers to rest themselves in, and a large wooden Fabrick, call'd The Kitchen, where Bathers may sit dry in wet Weather: There is also a private Pump for such as have occasion. This Bath is the best, I take it, in all cold or old Aches, or Pains in the Bones, scorbutick Rheumatisms, Palfies, Colicks, and most Diseases in the solid Parts; which are more, perhaps, than the World at present

present will allow; who attribute all our Distempers to the Liquids and Humours in their proper Vessels. By the Help of this Bath, the intestine Motion of the Blood is heightened, all its component Parts agitated and attenuated, so as to dispose the Patient to plentiful Sweats, after in Bed; which are of great Use to such as want that Evacuation.

The *Queen's-Bath* is but an Appendix to this Bath, parted from it by a Wall, and communicates with it by means of an open Passage, through which the Bathers pass and re-pass at Pleasure, according as they desire a hotter or a colder Bath. This Bath, having no Springs of its own, but receiving all its Waters from the *King's-Bath*, is not so warm as that is, and so may serve better where a more temperate Heat is required. It is of great Use to many, as a *Frigidarium*, or at least a *Tepidarium*, who, having bathed in the *King's-Bath*, use to cool

themselves here a little, before they go to Bed, to prevent too great Heats, and sweating too much. It is almost a Square, 25 Foot long, and 24 broad; it has a Cross in the Middle, supported by Stone Pillars, convenient Seats round it, a private Pump, and a private Parlour, upon occasion, to bathe in.

2. The *Hot-Bath*, so called, because once the hottest of all, as Dr. Jones* tells us it was in his Time, tho' not so at present, the *King's-Bath* being hotter. So that this Bath may be used successfully by such, as could not bear the Degrees of Heat in the *King's-Bath*. It has its Springs at the West End, where the Well is, which supplies not only its own Pump, but that of the *Cross-Bath* too. The Well is conveniently covered over with Stone, to prevent any Communication with the Water of the Bath. This Bath being

* Baths Aid, p. 21.

so narrow, in Proportion to its Length, may be easily cover'd over, and made a close Bath, as the Baths abroad are; which would be of great Use, not only in the Winter-time, but also in Summer, when the Weather is cold and windy. The *Hot-Bath* is 30 Foot and near half long, and 13 Foot broad.

The *Lepers Bath* is but a Part of this, divided from it by a firm Wall, and has not the least Communication with it, but by a Hole in this Wall, through which the Water of the *Hot-Bath* passes into this; which has not Springs enough of its own, and is supply'd by the *Hot-Bath*. In this Bath poor People and Lepers bathe by themselves, and have some small Allowances from the Town and Strangers for their Subsistence, while they stay here.

3. The *Cross-Bath*, which is the most temperate of them all, and for

that Reason may be of very good Use to Bathers who can't bear a greater Heat, and who often suffer great Inconveniencies from the indiscriminate Use of the hotter Baths. All this may be prevented by the Temperature of this Bath, in which hysterical Women and hypochondriack Men bathe often with good Success. This Bath is much the same with the *Queen's*, as to its Degrees of Heat; but is to be preferr'd to it, because it has Springs of its own, which the *Queen's* has not; the Reason of this Opinion I have given already. There is one thing not to be omitted here, that this Bath is particularly famous for the Cure of the Shrinking and Contractions of the Nerves and Tendons. Many eminent Instances of Cures of this kind have fallen under my Care and Observation; and the Crutches, as *Votive Tabulæ*, were hung up for a Remembrance of the Cure; which I am apt to think will hardly succeed so well

in any other Bath, because of their too great Heat, which is apt to contract the Nerves. In the Year 1692, I was concerned for my Lord *Mordaunt*, then about 11 or 12 Years old, who had such a Contraction of the Tendons of both his Hams, that he could neither go nor stand; and one Leg was longer than the other by two Inches, and was thought incurable by the Physicians and Surgeons of *London*. He bathed only in this Bath, and in less than two Months was able to walk. Winter coming on, he went to *London*, and early in the Spring went down again by my Advice, and became perfectly cured that Summer, beyond all Expectation. His Brother, Captain *Henry Mordaunt*, about five Years ago, had a very great Contraction of the Muscles of his right Leg and Thigh, from a Wound he receiv'd by a Cannon-Ball. He had tried the *King's-Bath* for near three Months, without any Success at all, being able to stand

but on one Leg; but was perfectly cured in a few Months by the *Cross-Bath*. This Bath is 24 Foot and a half long, and about 12 Foot broad.

There is one general Observation to be made on all the Baths, That the more temperate the Bath is, the longer Time the Patient may stay in it, and the fewer Inconveniencies attend it. Upon the whole, the Constitution of the Patient must be consider'd; for many can bear the Temperature of the *Cross-Bath*, that can't bear the Heat of any other. As to the Time of going into the Baths; the Patient's Stay there; which Bath best; how often to be repeated; and how long to be continued; all these, depending upon the Constitution of the Patient, and the particular Case, cannot be determined but upon the Place: and these are to be well consider'd, because Errors and Mistakes herein are of very ill Consequence, and often frustrate us of the Benefit we expected by the Bath. But
if

if these Circumstances are rightly managed, the Patient gets great Advantage, and often finds a good Habit of Body succeeds the Use of the *Bath-Waters*. And therein the Wisdom and Contrivance of Providence can never be enough admired, in ordering such Variety of Baths, which so differ from one another in Degrees of Heat, as to be able to answer all Constitutions of Patients that come hither for Cure. So that such as are offended at the Heat of the *King's-Bath*, may use the *Hot-Bath*; and if that proves too hot too, the Temperature of the *Cross-Bath* may suit their Case, and prove useful to them.

After all, I think all our Baths are supply'd from one and the same main Spring, and so only differ one from the other, according to the Distance they are from it, or the indirect Passages through which they are convey'd. And this, perhaps, is the Reason, that Dr. *Guidot* met more of the Ingredients in the *King's-Bath*, than in either of
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the rest; which may have dropt them in their longer Way. All these Baths not only keep the same Degrees of Heat in all Seasons of the Year, as I said before; but they alter not likewise in their Quantity, in the most drying Summer, or the most dropping Winter that ever was known in the Memory of Man. What Artifice the Antients used to secure these Springs so long; what Part of the Town the main Spring lies in; or how the Waters are convey'd to the particular Baths; is altogether unknown to the Inhabitants of the Place: So that it is a traditional Religion among them, not to dig anywhere too deep, for fear of disturbing or interrupting of the Springs; which would be attended with very ill Consequences.

CHAP. XIV.

Of COLD BATHS.

TO the hot and temperate Baths, with which this City has always been blest'd, a Cold Bath has been lately added. I know no Place, where cold Bathing may be practis'd with more Prospect of Success, than where the Hot Baths are too. After a Course of Drinking and Bathing, it is made an Assistant to the Hot Baths: For when by Drinking and Bathing in the warm Baths the Skin is cleansed, and the Blood sweetened, the cold Bathing comes in most opportunely to brace up the Solids, and invigorate the Animal Oeconomy. Upon this account it may not seem at all absurd, in writing of Hot Waters, and bathing in them,

them, to add something of cold Immersion, in the last place. So much has been said by Sir John Floyer, and Dr. Baynard, concerning the Use of cold Immersion, and the Philosophical Reason of its Manner of Operation in a great many Cases, that little more can be added to that Subject. I was an early Favourer of cold Bathing myself, when decried by many that understood little of Nature or Philosophy: They thought Life consisted in a sensible and active Heat, and Death in a mere insensible Cold: All their Fear was, that the Coldness of the circumambient Water of the Cold Bath would extinguish the native vital Heat of our Blood: Which proceeded from their Ignorance of what the antient Physicians had said on this Subject, as well as the Reports of such as have lived in cold Climates. I remember very well, about thirty Years ago, it was my Fortune to winter in the most Northern Part of *Poland*, a very cold Climate,

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in the Latitude of 56 and 37 Degrees; where the Inhabitants were all of a strong and lusty Constitution, had very hard Flesh, and rarely ailed any thing; not so liable to Diseases as such who live in warmer Climates, whose Flesh is loose, and subject to too much Perspiration. I am very much inclined to believe, a great Part of Mankind owe the Infirmities of their Constitutions to too great a Perspiration, which is most evident in hysteric Women and hypochondriack Men, the Fibres of whose Membranes are loose: Having lost their Tone, there is a greater Discharge made from the Habit of the Body; the Pores being more open, the Organs must be out of Tune, and flaccid for want of Recruits, proportionable to the Expence. And this, I take it, is the Reason also, why such Persons are so very subject to Colds, Faintings, and Lowness of Spirit; which is their most frequent Complaint. And cold Water externally thrown on them, or internally

ternally taken, proves a better Cordial, by contracting the Membranes in the Habit of the Body, and checking this Expence, than any Recruits by Cordials of any kind. This may be the Reason of the great Increase of People in the Northern colder Countries; who used to swarm, and then invade their warmer Neighbours for more Room and Subsistence; because their Children, being bred hardier, were not so obnoxious to Distempers and Death, as such as were brought up more tenderly. The poorest in this Country eat and sleep in warm Stoves, where their Children seldom wear any thing but a Shirt, till seven or eight Years old; whose Diversion, I observed, was little else but warming themselves by the hottest Part of the Stove, and immediately after that, tumbling one another on the Snow. By this Variety of Pastime their Flesh becomes as hard as brawn, and they the better fitted for the Injuries of the bitter cold Weather

ther they must endure, when they are exposed to them in the Course of their Lives afterwards. 'Tis this that secures them from Mortifications, which would happen much oftener, were they not inured to harden their Flesh by this wholesome Pastime, when young. I remember one Day, travelling in *Prussia*, on a Lake frozen over, a Gentleman in our Company, a *Dantzicker* Merchant, was of a sudden frozen in both his Feet, so as not to be able to go or stand. The Method of Cure in this Case is, to apply Snow, or Ice broken, rubbing the Part well with them: And this is a very severe Affliction; for they hardly allow such as are in these Circumstances, the Benefit of a Stove, whose Warmth hastens the Mortification: Nor dare they apply any thing that is warm or spirituous to bathe it withal; because the Flesh then comes off from the very Bone like so much rotten Dirt. The cold Application preserves
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the Tone of the Fibres of the Parts affected; and if their native Heat can dissolve gently the coagulated Juice in their hollow Tubes, and render them fluid again, the Part is preserved; otherwise a Mortification follows. Whether it happen'd in this Case, I know not, because I saw not the Event of it: We parting Companies, left the Gentleman on the Road to *Königsberg*, he not being able to travel with us. In this Journey, every three Hours, and sometimes less, we refresh'd ourselves in the warm Stoves of the People of the Country, who were so miserably poor, that we were forced to carry our Provisions for ourselves and Horses, for several Days together. Now in these Stoves, at our first Entrance, the Pores being much clos'd by the cold Air, we could hardly breathe; but in a few Minutes, when the Heat of the Stove had rarefy'd our Blood, and open'd our Pores a little, we felt no Inconvenience. I mention these Things,

Things, only that you may see of what Use it may be to us, not to bring up Children tenderly; for the more they are exposed to the Vicissitudes of Weather, the more healthy they'll be, and the more fit to bear Fatigues and Hardships afterwards. I must confess, such is the Temperature of our Climate, that cold Baths are not so universally good, as in the warm Regions of *Spain*, &c. where I have known a Glass of Water cool'd with Ice, and a Piece of Ice held in a Man's Hand, like a Cold Bath, were Cordials; yet I have met with many in *England*, whose weak Habit of Body requir'd rather cold than hot Immersion.

Now
Hence, for several Days together, I
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INSBURY, NEAR BATH.

A
RELATION

Of an Extraordinary

Sleepy Person,

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TINSBURY, NEAR BATH.

NOTATION

Sleepy Person

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T I N S B U R Y , near B A T H .

MAY the 13th, *An.* 1694. one
Samuel Chilton, of *Tinsbury*,
 near *Bath*, a Labourer, about twenty-
 five Years of Age, of a robust Habit
 of Body, not fat, but fleshy, and a
 dark-brown Hair, happen'd, without
 any visible Cause, or preceding Sign,
 I to

to fall into a very profound Sleep; out of which no Art, used by those that were near him, could rouse him, till after a Month's time; then he rose of himself, put on his Cloaths, and went about his Business of Husbandry, as usual; slept, could eat and drink as before, but spake not one Word, till about a Month after. All the time he slept, Victuals stood by him; his Mother, fearing he would be starv'd in that sullen Humour, as she thought it, put Bread and Cheese, and Small-Beer, before him, which was spent every Day.

From this Time he remain'd free of any Drowsiness or Sleepiness, till about the 9th of *April*, 1696; and then he fell into his sleeping Fit again, just as he did before. After some Days they were prevail'd with to try what Effect Medicines might have on him; and accordingly one Mr. Gibbs, a very able Apothecary at *Bath*, went
to

to him, bled, blister'd, cupp'd, and scarify'd him, and us'd all the external irritating Medicines he could think on; but all to no Purpose, nothing of all these making any manner of Impression on him; and after the first Fortnight he was never observ'd to open his Eyes. Victuals stood by him as before, which he eat of now-and-then, as he had occasion: And sometimes they have found him fast asleep, with the Pot in his Hand in Bed, and sometimes with his Mouth full of Meat. In this manner he lay for about ten Weeks, and then could eat nothing at all; for his Jaws seem'd to be set, and his Teeth clinch'd so close, that with all the Art they had, they could not open his Mouth, to put any thing into it to support him. At last, observing a Hole made in his Teeth, by holding his Pipe in his Mouth, as most great Smokers usually have, they, through a Quill, poured some

Tent into his Throat, now-and-then: And this was all he took for six Weeks and four Days; and of that not above three Pints or two Quarts. He had made Water but once, and never had a Stool all that time.

August the 7th, which is seventeen Weeks from the 9th of *April* (when he began to sleep), he awaked, put on his Cloaths, and walk'd about the Room, not knowing he had slept above a Night; nor could he be persuaded he had lain so long, till going out into the Fields, he found every body busy in gathering in their Harvest, and he remember'd very well, when he fell asleep, they were sowing of Barley and Oats, which he then saw ripe, and fit to be cut down.

There was one thing observable, That though his Flesh was somewhat wasted with so long lying in Bed, and fasting for above six Weeks; yet a worthy Gentleman, his Neighbour, assur'd

assur'd me, when he saw him (which was the first Day of his coming abroad) he look'd brisker than ever he had seen him in his Life before: And asking him, whether the Bed had not made him sore; he assur'd him and every body, that he neither found that, nor any other Inconveniency at all; and that he had not the least Remembrance of any thing that pass'd or was done to him all that while. So he fell again to his Husbandry, as he us'd to do, and remain'd well from that Time till *August* the 17th, *Anno* 1697; when in the Morning he complained of a Shivering and Coldness in his Back, vomited once or twice, and that same Day fell into his sleeping Fit again.

Being then at the *Bath*, and hearing of it, I took Horse on the 23d, to inform myself of a Matter of Fact I thought so strange. When I came to the House, I was by the Neighbours (for there was nobody at home at that

time besides this Man) brought to his Bed-side, where I found him asleep, as I had been told before, with a Cup of Beer, and a Piece of Bread and Cheese upon a Stool by his Bed, within his Reach. I took him by the Hand, felt his Pulse, which was at that time very regular; I put my Hand on his Breast, and found his Heart beat very regular too, and his Breathing was easy and free; and all the Fault I found was, that I thought his Pulse beat a little too strong: He was in a breathing Sweat, and had an agreeable Warmth all over his Body. I then put my Mouth to his Ear, and as loud as I could, call'd him by his Name several times, pull'd him by his Shoulders, pinch'd his Nose, stopp'd his Mouth and Nose together, as long as I durst, for fear of choaking him, but all to no Purpose; for in all this time he gave me not the least Signal of his being sensible. I lifted up his Eye-lids, and found his Eye-balls drawn up under

der his Eye-brows, and fix'd without any Motion at all. Being baffled with all these Tryals, I was resolv'd to see what Effect *Spirit of Sal Armoniac* would have, which I had brought with me to discover the Cheat, if it had been one: So I held my Viol under one Nostril a considerable time; which being drawn from Quick-lime, was a very piercing Spirit, and so strong I could not bear it under my own Nose a Moment, without making my Eyes water; but he felt it not at all. Then I threw it, at several times, up that same Nostril: It made his Nose run and gleet, and his Eyelids shiver and tremble a very little; and this was all the Effect I found, tho' I pour'd up into one Nostril about an half-ounce Bottle of this fiery Spirit, which was as strong almost as Fire itself. Finding no Success with this neither, I cramm'd that Nostril with Powder of *White Hellebore*, which I had by me, in order to make my far-

ther Tryals; and I can hardly think any Impostor could ever be insensible of what I did. I tarry'd some time afterwards in the Room, to see what Effects all together might have upon him; but he never gave any Token that he felt what I had done, nor discover'd any manner of Uneasiness, by moving or stirring any one Part of his Body, that I could observe. Having made these my Experiments, I left him, being pretty well satisfied he was really asleep, and no sullen Counterfeit, as some People thought him.

Upon my Return to *Bath*, and relating what I had observ'd, and what Proofs this Fellow had given me of his Sleeping, a great many Gentlemen went out to see him, as I had done, to satisfy their Curiosity in a Rarity of that Nature, who found him in the same Condition I had left him in the Day before; only his Nose was inflamed and swelled very much, and his

his Lips and the Inside of his right Nostril blistered and scabby, with my *Spirit of Hellebore*, which I had plentifully dosed him with the Day before: His Mother, for some time after, would suffer nobody to come near him, for fear of more Experiments upon her Son. About ten Days after I had been with him, Mr. *Woolmer*, an experienced Apothecary at *Bath*, called at the House, being near *Tinsbury*, went up into the Room, finding his Pulse pretty high, as I had done, took out his Launcet, let him Blood about fourteen Ounces in the Arm, tied his Arm up again, nobody being in the House, and left him as he found him; and he assured me he never made the least Motion in the World when he prick'd him, nor all the while his Arm was bleeding.

Several other Experiments were made by those that went to see him every Day from the *Bath*; but all to no Purpose, as they told me on their

Return. I saw him myself again the latter End of *September*, and found him just in the same Posture, lying in his Bed, but removed from the House where he was before, about a Furlong or more; and they told me, when they removed him, by Accident, carrying him down Stairs, which were somewhat narrow, they struck his Head against a Stone, and gave him a severe Knock, which broke his Head; but he never moved any more at it than a dead Man would. I found now his Pulse was not quite so strong, nor had he any Sweats, as when I saw him before. I tried him again the second time, by stopping his Nose and Mouth, but to no Purpose: And a Gentleman, then with me, ran a large Pin into his Arm to the very Bone, unknown to me; but he gave us no manner of Tokens of his being sensible of any thing we did to him.

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In this Manner he lay till *November* 19. when his Mother, hearing him make a Noise, ran immediately up to him, and found him eating. She asked him how he did? He said, Very well, thank God: She asked him again, which he liked best, Bread and Butter, or Bread and Cheese? He answer'd, Bread and Cheese. Upon this the poor Woman, overjoy'd, left him, to acquaint his Brother with it; and they came strait up into the Chamber to discourse him, but found him as fast asleep again as ever, and all the Art they had could not wake him. From this Time, to the End of *January*, or the Beginning of *February* (for I could not learn from any Body the very Day), he slept not so profoundly as before; for when they called him by his Name, he seemed to hear them, and be somewhat sensible, tho' he could not make them any Answer. His Eyes were not now

shut so close, and he had frequently great Tremblings of his Eye-lids, upon which they expected every Day when he would wake; which happen'd not till about the Time just now mentioned, and then he waked perfectly well, not remembering any thing that happened all this while. 'Twas observed he was very little altered in his Flesh, only complained the Cold pinched him more than usually, and so presently fell to Husbandry, as at other times.

I have no Reason to suspect this to be a Cheat, because I never heard of any Gain to the Family by it, tho' so near the *Bath*, and so many People went thither out of Curiosity to see the Sleeper, who when awake, was a Support to his old Mother by his Labour, but now a certain Charge to her. Besides, there was seldom any body in the House to attend any Profits might be made by it, he being
left

left alone, and every body at liberty to go up to his Bed-side.

I am very apprehensive I have laid myself too open to the Censures of the World in this Relation I have here given of this uncommon *Sleeper*, because many will be apt to conclude at first Sight, that it is impossible it should be true; as if they were acquainted with all the *Mysteries* of *Nature*. *Inest & in incredibili verum*, says *Minutius Felix*; there may be Truth in what seems to us incredible. Whoever will give himself the Trouble to inquire into the Matter of Fact at *Bath*, may be satisfied that it is really so.

Now, if it be no forged thing, but an undoubted Truth, there needs no Philosophy to prove it possible, *Ab esse ad posse valet consequentia*. From this so odd a Story two Questions naturally arise, which the World may expect I should say some-

something too. And the first is, How any Man can sleep so long, eat and drink between whiles, and not be sensible, nor remember any thing that pass'd all that Time? 2dly, How it can be possible, that any Person could subsist so long as six Weeks and odd Days, without Food and Evacuation?

To the first I answer; The Doctrine of *Sensation* depending on the *Soul* as its proper original Cause, till we are agreed what the *Soul* is, or wherein its *Essence* does consist, that must be obscure and dark, being one of the Operations by which the *Soul* is known to exist. I shall not trouble my *Reader* with all the *Notions* the *Antients* have had about the *Soul*, some thinking it a *Fire*, a *Wind*, a *Spirit*, or a thin *Body*; contented with what is generally allow'd by the greatest Part of Mankind; viz. That it is a *Being* distinct from the *Body*,
sepa-

separable from it, and capable of existing out of it. This is that *Principle* in us, by which we live, move, feel, and understand, which we call *Mind*. This is what I think the *Antients* call'd *Particula Auræ Divinae*, and what the *Moderns* call the *Rational Soul*. Of which we can have no Knowledge *à Priori*, but by its Operations *à Posteriori* we may. When we *Think*, *Reason*, *Desire*, *Believe*, *Remember* any thing, or our Senses affect us with *Pain* or *Pleasure*, then have we a Certainty of our Existence, and that these Operations are altogether incompatible with mere *Matter*, which is wholly *passive*. For this Reason it more properly belongs to an active *Principle*, whose *Essence* consists in *Action*, which the *Cartesians* call *Cogitation*. And thus the *Soul* is describ'd by them to be the *Internal Principle* within us of our *Thoughts*, *Appetites*,

tites, and *Will*, by whose Help all the Functions and Operations are produced, which proceed from Thought *. And in the sixth Chapter he affirms, that the *Soul* is a *Spirit* that always thinks, and can never cease thinking, as long as it does exist; and that it ceases to be, as soon as it ceases to think. *Descartes* † explains this Notion, that he means by *Cogitation* sometimes the *Action*, sometimes the *Power*, and sometimes the *Thing* in which this Power is. The Learned Mr. *Locke*, in his *Essay of Human Understanding*, says, He cannot conceive it any more necessary for the *Soul* always to think, than for the *Body* always to move, the Conception of the *Ideas* being to the *Soul*, what Motion is to the *Body*; not the *Essence*, but one of its Operations; and there-

* Le Forge de Mente humana, cap. 2.

† Meditat. p. m. 98.

fore, tho' Thinking be ever so much the proper *Action* of the *Soul*, yet 'tis not necessary to suppose, that the *Soul* should always *think*; nor is it essential to *Matter* always to be in Motion, for then Rest alone would annihilate it. And yet I believe it will be a very hard Task for any body to assign *Rest* to any Particle of *Matter* in the *Universe*, not only because of the *Diurnal* Motion of all *Orbs* within their *Vortexes*, but also upon the account of the *Intestine Motion* of the smaller Particles of *Matter* in the *Bowels* of the *Earth*, there being nothing else but a constant *Series* of *Generations* and *Corruptions* everywhere. Whether Want of *Cogitation* or actual *Thinking* would destroy the *Soul*, is not so manifest to us, who have not so clear *Ideas* of the *Soul*, as we can have of *Matter*. What the *Powers* of *Matter* are, we may have a tolerable *Notion* of; but what those of the *Soul* are, we are at a loss when we
begin

begin to think of them. *Hippocrates* * thinks *Heat* the Cause of *Thought*, and some there are suppose it the Result of *Particles* of Matter so dispos'd and rang'd together, as to be able to produce *Thought* in us, and all the Operations before-mention'd. Thus a *Watch* or *Clock* shews the *Hour*, and the *Motions* of the *Heavenly Bodies*, by its Springs and Wheels so ordered and contrived. 'Tis the received Opinion, when we begin to live, feel, &c. we are indued with an *Intellectual Soul*, and that *Death* is the Recess or Departure of it from the Body. That *Life* may be without *Thought*, is plain in *Vegetation*; but how *Sense* can be without it, is hard to be made out. Upon the Whole, if the *Soul* be a *Spirit*, congenial with *Angels*, how can it cease from *Action* or *Thought*? If only a *Power*, it may act or not act,

* Lib. de Carnibus.

think or not think, at pleasure: If the *Result* of the Contexture of the Particles of Matter, then it acts out of mere Necessity, and Men judge and think better than others, because better put together: The *Fox* is cunninger than the *Ass*, and the whole Family of *Hares* make better Shifts when hunted than a *Fox*, because their Organs are more adapted for such Evasions. Philosophers tell us, there are three *Souls* in *Man*, the *Rational*, the *Sensitive*, and the *Vegetative*; and that these are distinct in their *Properties*, *Attributes*, and *Offices*, one from the other. That the two last are subordinate to the first, which, they tell us, distinguishes a *Man* from a *Beast*, as the *Sensitive Soul* does the *Beast* from the *Plant*. Now if this Philosophy be true, the *Rational Soul* may be lost for a time, the *Sensitive* eclips'd, and nothing left but the *Vegetative*; this Creature, when inspired with the Divine Ray of Reason,

son, was honour'd with the Dignity of a Man, but in his sleepy Fit fallen below the Degree of the Sensitive *Plant*. And the Story of *Hermotimus*, mention'd by *Plutarch* *, *Tertullian* †, and *Pliny* ‡, may be true too, whose *Soul* frequently left his Body, went into far Countries, and gave an Account of what pass'd there; which that Wag *Lucian* laughs at as a Fable, in his *Encomium Muscæ*. Not unlike this is what *St. Austin* tells us § of one *Restitus*, a *Priest* in *Phœnicia*, who would fall down at pleasure so like a dead Man, that he neither breathed, nor felt when they pinch'd or burnt him; and this he would do at any time, to gratify any body that desired him. After all, he that can tell me what the Essence of

* Lib. de Genio Socratis.

† De Anima.

‡ Lib. 7. c. 52.

§ Lib. 14. cap. 24. de Civitate Dei.

the *Soul* is, how as a *Spirit* it operates on Matter, and what Cement it is that keeps them together; whoever will unriddle to me those Mysteries, shall be my *Apollo*. Till that Time I shall say with *Lucretius*,

Ignoratur enim quid sit Natura Animal.

So that, till we can come to a certain Knowledge what the *Soul* is, we can never come to the Knowledge of its *Powers* and *Operations*; nor ought to determine any thing positively concerning it as impossible.

Question the 2d, How it can be possible, that any Person could subsist so long as six Weeks and odd Days, without Food or Evacuation?

I answer; It will be no easy Undertaking to persuade the World, that any Man can abstain from *Food* so long, because knowing how few Hours they can live without Recruits

themselves, they can have no Notion, how any body can subsist so many Weeks. But what has been, may be; and very learned Men assure us of their own Knowledge, that the Matter of Fact is true, that Persons have lived several Weeks without eating any thing considerable all the time. Certain it is, in Persons in Health, whose *Vital Heat* is brisk, the Case differs mightily; for such must have Nourishment to supply the Expence they are at by Perspiration and other Evacuations. But in this Case the *Heat* is calm and gentle, and consumes their Blood and Spirits very slowly; as a *Lamp* burns slowly, when there is much *Oil*, and little *Flame*. We have frequent Examples of *Leucophlegmatick Virgins*, who from a gradual Decay of *Appetite*, have fallen at length into an absolute Aversion to all Food, and endured a long Abstinency, without either *Miracle* or *Imposiure*. Where the *Motion* and

Ferments of the Blood are small, the *Expense* must be so too, as in this *Morbid State*, and the less *Recruits* are required for the supporting and sustaining so languid and weak a Life, And this I take to be the Meaning of that Saying of *Hippocrates* *; Such as are of a hot bilious Constitution, cannot bear the Inconveniency of Fasting, so well as such as are of a phlegmatick Nature. And this, I take it, is the Case of *Abstinent*s, such as live long without Food; they are of a very cold Constitution, and abound with a thick viscous Phlegm in their Stomach and Intestines, which destroys the Appetite and Sense of those Parts; so that there the Motion is slow, little or no Evacuation by Perspiration, Stool, or Sweat. Experience tells us, that those *Animals* that sleep long, such as *Dormice*, *Vipers*, *Snails*, *Bats*, and the like, are all cold Creatures, live under

* De Victu Acutor.

Ground or in Holes all Winter, and in Summer only appear, when the *Sun's* Heat is strong enough to raise their *vital Heat*, that before was checked by Cold. My Argument would be much stronger, if the Relation of *Baron Herberstein* were true*, who tells us, there are in the *Northern* Parts of *Muscovy*, near the River *Oby*, on the Borders of *Tartary*, a People he calls *Leucomori*, who sleep from the 27th Day of *November*, till the 23d of *April*, like *Tortoises*, under Ground, and then come to Life again, tho' quite frozen all the Winter. This Gentleman was twice Ambassador in *Russia*, from *Ferdinand* the Emperor, and dedicated his Commentaries to him, when he returned the second time: But nevertheless, he must have a strong Faith that can believe it. I can easily foresee an Objection will arise, That the Animals I have mentioned, when

* Comment. Rer. Muscovit.

they

they sleep and fast thus, act according to the determined *Laws* of their own *Nature*; so that there can't be the same Parity of *Reason* for the one that there is for the other.

I answer; Animal or Sensitive *Life* is the same in *Mankind* as in these *Brutes* I have mentioned, *Nature* acting univocally in all Creatures. They *eat, drink, and sleep* as we do; are nourished in the same Manner as we are; have their *Veins, Arteries, and Nerves*, which serve for the same Uses ours do; only our Constitutions are warmer, and we are better able to subsist in an active State in Winter than such Animals as we have named can. But suppose by Sickness our Blood and Humours should be congealed, or in a manner frozen within us; or that our Spirits should be inviscated or fettered, that they cannot exert themselves in so glutinous a Phlegm, and the *vital Heat* is become

K dull

dull and languid, which is their Case, and may be ours: I say then, when we are reduced to their *Temperament*, which is not impossible but we may be, I see no *Reason*, according to the *Laws* of *Motion*, why the *Effect* upon us should not be the same. Thus Man, when in *Health*, cures Wounds with his *Saliva*, or Spittle, which in a morbid State, viz. in the Disease called *Hydrophobia*, becomes as venomous and fatal as that of a *Viper* or *Rattle-Snake*. Now it is more to my purpose, if it be true, as the Learned suppose it, that this *Poison* is not only occasion'd by the Bite of a mad *Dog*, or any other Creature, but it is possible, without any manifest Cause, may be bred within us, as *Cælius Aurelianus* *, *Petrus Borellus* †, and some others I could mention, have deliver'd

* De Morbis Acutis, cap. de *Hydrophobia*.

† Cent. 2. Obs. 52.

as their Opinion upon their own Observation.

It is moreover probable, that the *Air* may contribute something towards the Support of the animal *Life* for a considerable time. If all Bodies are as well inspirable as expirable, as was said and prov'd before, why may not the *Air*, entering into our *Pores*, convey with it such a Moisture, as may nourish in Proportion to the Expence? *Est in aere occultus vitæ cibus*, says *Cosmopolita*. Thus *Air* consisting of various Exhalations, and Vapours from all Parts, by the purer *Æther's* Elasticity, may become congenial with our Spirits, and supply us with Nourishment for a time. That there is a *Magnetism* in Liquids as well as Solids, the ingenious *Sinibaldi* * is of Opinion, and that similar Bodies attract one another.

* *Apollo Bifrons*, p. m. 177.

That an Animal may be supported and nourished by *Air*, he proves by Experiment, That young *Vipers*, not above an Inch long, put into an empty Glass, cover'd with Paper, prick'd with Holes to let in Air, will, in less than a Year's time, grow to be a Foot long without any other *Food*. That the Process of *Nutrition* is perform'd *Ἀρμοειδῶς sub specie Vaporis*, is the Opinion of very learned Men. The ingenious Dr. *Ent* will not allow the nutritious Juices should have any Thickness in them. That Smells are very refreshing, every body has experienc'd. Thus good old *Democritus*, at the Age of an hundred and nine, and dying, not able to eat, was supported by the Smell of new Bread dipt in Honey three Days together, till the *Feasts* of *Ceres* were over, as *Diogenes Laertius* tells us in his Life. And I am persuaded, Cooks are generally fat, more from the Smell of Victuals than from what they

they eat. If these Things are in Nature, as I am prone to think they are, then a Man or Woman may live several Months with very little or no Food all that time.

POST-

P O S T S C R I P T.

AS I had finish'd this Relation, I met with something like it from Rotterdam, lately printed in London, which I shall here give my Reader an Abstract of.

Dirk Claasz Bakker of *Stokwyck*, nor far from *Rotterdam*, slept from the thirteenth of *July* 1706, to the eleventh of *January* 1707, without Intermission, being Six Months; and on the Twelfth of the same Month, being the next Day, fell asleep again, and is at present sleeping and alive, on the eleventh of *March*, N. S. when this was written. For Forty Days together he did eat nothing at all; only one Day drank four or five Porringers of Water, and now-and-then a Spoonful

ful of *Spanish* Wine, which, in all, amounted to not above five Ounces; and this is all that he has drank since his first Sleeping. His Sister every Day now gives him a Mouthful or two of Victuals, not enough to subsist a new-born Child.

This is attested by Dr. *Paul Walwick*, Dr. *Cornelius vander Zee*, Dr. *Henry Snellen*, and Dr. *Abraham Solomon vander Voort*, four eminent Physicians in *Rotterdam*; and printed by *John Morphew*, near *Stationers Hall*, *London*.

F I N I S.

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